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ABSTRACT

This document addresses issues concerning the development of innovative and performance-based methods to fund adult education, which was a recommendation in the 1989 California Strategic Plan for Adult Education. Specifically, it was recommended that funding policies and mechanisms be adjusted to allow and encourage "any-time, any-place, on-demand" instruction through: (1) the use of instructional technologies such as computer-assisted instruction and televised courses; (2) innovative and nontraditional educational methods such as tutoring and on-the-job training; and (3) collaborative programs. In addition, it was recommended that funding be linked to performance. Chapter 1 offers a history and summary of the recommendation and lists its objectives. Chapter 2 is a review of relevant literature. Chapter 3 covers issues surrounding the recommendation and options for its implementation. They include obtaining legislative authority to test models, adopting the independent study approach as a basis for nontraditional adult education, developing a cafeteria plan of reimbursement options, developing a statistically reliable model for measuring learner competencies, and using EduCard (the Adult Education Access Card, an educational recordkeeping and information system) to facilitate public-private and cross-agency ventures. Recommendations appear in Chapter 4. Chapter 5 summarizes the preceding chapters. (CML)

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Funding for Innovation and Performance

Working Paper on Strategic Recommendation 2

Advisory Review Draft
July 23, 1990

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Letter of Transmittal

Funding for Innovation and Performance is one of fourteen recommendations set forth in the ***Adult Education for the 21st Century: Strategic Plan to Meet California's Long-Term Needs***. It addresses the need for new ways to finance and reimburse providers for alternative educational services provided under varied conditions and time frames.

This working paper addresses (1) the recommendation, (2) related research and models that help refine our options, (3) the major policy issues and options, and (4) our recommendations. It is intended as a work in progress to guide the Interim Steering Committee and the funding subcommittee deliberations. The recommendations developed by the Steering Committee will be presented to State Superintendent of Public Instruction, Bill Honig, and Community College Chancellor, David Mertes.

This working document does not necessarily reflect the views or policies of the California Department of Education, Community Colleges, or the Interim Steering Committee.

Sincerely,

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This paper has been prepared to summarize background information and outline possible policy decisions. The contents of this paper do not necessarily reflect the policies of the California Department of Education, Interim Adult Education Steering Committee, or other institutions.

Executive Summary

New ways must be found to make learning opportunities available to adults. Funding should allow and encourage flexibility in the timing of learning and the provision of instruction in a wide range of settings. The objectives of Recommendation 2 are to identify and test viable policies and procedures that facilitate and allow (1) anytime, anyplace learning; (2) public-private and cross-agency adult education ventures; (3) promote educational quality via bonus funding; (4) increase flexibility in funds allocation, and (5) stabilize funding to providers.

This paper addresses issues concerning the development of innovative and performance-based methods to fund adult education. It covers background research, possible models, policy options and recommendations to implement Recommendation 2. The key to achieving this flexibility and accountability is the ability to measure instructional quality and to reward excellence in achieving learning objectives. This requires an ability to serve a wide range or adult learners, and to encourage the use of the most appropriate delivery system(s) to meet the needs of the learners and the local community.

This recommendation proposes that all California adults, regardless of age, community, or prior educational experience, should have the opportunity to attain basic skills, renew occupational qualifications and pursue other self-improvement. Moreover, current funding policies do not allow adult education providers to meet current demand, let alone plan for future adult education needs. The original text of the recommendation is:

This recommendation proposes that all California adults, regardless of age, community, or prior educational experience, should have the opportunity to attain basic skills, renew occupational qualifications and pursue other self-improvement.

Recommendation 2
FUNDING FOR INNOVATION AND PERFORMANCE

Adjust funding policies and mechanisms to allow and encourage any time, any place on-demand instruction through the following methods:

- Use of instructional technologies (*e.g.* computer assisted instruction, TV courses, etc.).
- Innovation and nontraditional educational methods (*e.g.* tutoring, on-the-job training, etc.).
- Collaborative programs.
- Linkage of funding to performance.

There are no comprehensive models for the funding arrangements that will be needed in the future. The proposed *EduCard*$_{TM}$ (Recommendation 4) will facilitate this model development. One working model is the cross-agency matching and billing arrangements being developed by the State of Michigan as part of its *Opportunity Card* system.

Objectives of Recommendation

There are five objectives to guide the development of the recommendation. They are:

(1) **Facilitate Anytime, Anyplace Learning**

(2) **Promote Public-Private Venture**

(3) **Use Bonus Funding to Promote Educational Quality**

(4) **Stimulate Flexible Allocation of Funds**

(5) **Stabilize Provider Funding**

These five objectives, based on the deliberations of the Adult Education Advisory Committee, support the development of policies and procedures that permit adult education providers flexibility in designing and delivering educational services that respond to diverse learner's needs.

Useful Models and Proposals

The review of useful models and proposals indicates that performance measures can be used uniformly, fairly or neutrally, and performance can correlate well with desired outcomes. There does appear to be an existing model that seems entirely appropriate for adult and noncredit education.

However, there are elements and experience from the several models examined that provide useful guides. They are:

- Performance measures must take into account the differing levels of learners.
- Performance measures should address the "value-added"[1] by the intervention.
- Only one model (Tennessee) seeks to reward quality performance for achieving standards.
- Another model (Missouri) demonstrates the feasibility of developing "rich" measures of quality educational outcomes.

[1] "Value-added" refers to the contribution made by instruction. Since each learner begins at a different point, the value added is the learning and knowledge gained from the point when instruction begins. Value added is measured by pre and post testing or testing which monitors learning progress. Both a cost of this "production" and a value for the instructional "production" are calculated. The concept comes from industrial manufacturing and from taxation formula which add taxes to manufactured items at each stage of production.

- Linking funding to performance will require developmental efforts to craft a system tailored to the specific needs of adult education.

- Careful testing of performance-oriented funding incentives will be needed to determine exactly how theoretically attractive systems actually change educational providers' behavior.

- Linking funding to performance will be require developmental efforts to craft a system tailored to the specific needs of adult education.

- Effective linkage of funding to performance requires that programs be given the maximum possible flexibility to meet performance objectives.

There are other developments that also must be considered in designing funding systems that encourage innovation and quality performance. In particular the growing importance of technology in permitting instruction to be more personalized and flexible, and social trends that will shape adult education needs and services over the next decade must be taken into account in designing policy options.

Social and Technical Considerations

Trends to be considered carefully in deliberation regarding policy options for funding innovation in California adult education are:

(1) **Learning Technologies.** The introduction of new learning technologies has and will continue to change the fundamental nature of structured adult learning.

(2) **Workplace and Career Change Requirements.** The changing workplace requires that workers in virtually all occupations have new types of "basic" skills. Additionally, increases in career mobility requires that workers acquire new capabilities to participate in lifelong learning.

(3) **Population Trends and Immigration.** Immigration of foreign-born workers with limited English ability and literacy and little educational experience creates high levels of demand for new education services for adults.

(4) **School Dropout Rates.** Continuing high rates of junior and high school dropout require maintenance of "remedial" education services.

These trends relate to the outcomes of adult education—the demands made by society of its educational institutions. But they also are associated with how the process of education—how educational institutions go about meeting demands, both now and in the near future.

Policy Options Discussed

Eight policy issues and options for funding for innovation and performance are identified and discussed. Strengths and weaknesses are examined for each option. It is important to recognize that these options are designed primarily for nontraditional education where instructional technology or nontraditional settings are being employed.

Recommended Options

The eight policy options discussed are recommended for further development as action items. In addition a new option is proposed to guide long term research.

The nine options presented and recommended are:

(1) **Obtain Legislative Authority to Test New Models.**

(2) **Adopt Independent Study Approach as Basis for Nontraditional Adult Education.**

(3) **Develop A Cafeteria Plan of Reimbursement Options.**

(4) **Develop a Statistically Reliable Model for Measuring Increased Learner Competencies.**

(5) **Develop a Fee-for-service Performance Incentive Model.**

(6) **Develop a Standardized Funding Model Based on Value-added.**

(7) **Experiment with a Cafeteria Plan of Reimbursement Options.**

(8) **Utilize the *EduCard*$_{TM}$ to Facilitate Public-Private Ventures**

(9) **Begin to Develop a Knowledge Base on Adult Learning Theory as It Applies to Higher Order Problem Solving Skills.**

In addition it is recommended that Option Five be tested in the near future. Likewise, an elaboration of Option 6, "Reimburse Providers Based on Value-Added," should be designed and tested. This option would reimburse the provider for learning services based solely on a value-added rate schedule. The incentives would be weighted to not punish or to favor the hard-to-serve. The incentive would increase as the value-added increases.

The costs reimbursed would be the provider's real costs rather than a statewide norm and the reimbursement would be based entirely on value-added with consistently good performance permitting the provider to make a "profit."

Future Actions

These nine recommendations and the subsequent design steps will lay the groundwork for expanding our knowledge and experience with funding for innovation and performance.

This paper and the recommendations are intended as a work in progress to guide the Interim Steering Committee and the funding subcommittee deliberations. The recommendations developed by the Steering Committee will be presented to State Superintendent of Public Instruction, Bill Honig, and Community College Chancellor, David Mertes for review and approval.

Chapter 1

Introduction and Overview

The use of computer-based, multimedia and other nontraditional instructional methods are hampered by the average daily attendance method of financing. Funding mechanisms must be adjusted to allow more diverse and flexible learning methods, and encourage program improvement.

This paper addresses issues concerning the development of innovative and performance-based methods to fund adult education. It is the first in an evolving working paper on Strategic Recommendation 2, ***Funding for Innovation and Performance***, from California's 1988–89 ***Strategic Plan for Adult Education.***

This paper builds on the developmental work in two companion papers. One is ***Funding for Today's Needs*** (Recommendation 1). The second is the ***California State Plan for Adult Basic Education***, which sets the parameters for the Strategic Plan implementation over the next four years. These two papers are referenced throughout this report. Readers are encouraged to review these documents for a more complete background on the topic and the related working paper.

It is important to recognize that this discussion goes into areas where there is little experimentation and policy experience. Consequently, this paper identifies simple, readily understandable approaches to funding for innovation and performance while recognizing that measuring learning and performance is inherently complex. If new approaches are to be successful, this complexity must not decrease the providers' willingness to work with difficult-to-serve learners or weaken their commitment to innovation.

This paper is organized into five chapters, each building on the preceding. They are:

- Introduction and Overview
- Review of Literature and Information
- Options to Implement Recommendation
- Recommendations
- Conclusions and Future Issues

The overriding purpose of this paper is to isolate policy issues and options that help lay the groundwork for identifying and testing new approaches of funding for innovation and performance.

This chapter provides a history and summary of Recommendation 2, and identifies its primary objectives.

1.1 Introduction and Overview

The overriding purpose of this paper is to isolate policy issues and options that help lay the groundwork for identifying and testing new approaches of funding for innovation and performance.

New ways must be found to make a variety of learning opportunities available to adults. One of our most important goals facilitate adult by making it possible at any time and available in easily accessible locations and within suitable environments. This requires the use of nontraditional instructional strategies and educational technologies, *(e.g.* TV courses, tutorial programs, on-the-job training, computer-based instruction, worksite instruction).

HISTORY OF RECOMMENDATION

The recommendation regarding funding for innovation and performance comes from an planning process initiated in October 1988 by the Adult Education Unit of the Youth, Adult and Alternative Educational Services (YAAES) Division of the California Department of Education (CDE). It was developed under the guidance of a twenty-six member Adult Education Advisory Committee appointed by State Superintendent of Public Instruction Bill Honig.

The result was ***Adult Education in the 21st Century***, released in June 1989 as the long term initiative to improve delivery, increase quality and expand the scope of California adult education programs. In the fall of 1989 the California Community Colleges began participating as full partners in the implementation of this plan.

SUMMARY OF RECOMMENDATION

The following is the exact text of Recommendation 2 and the discussion that appeared in ***Adult Education in the 21st Century***.[1]

[1] ***Adult Education in the 21st Century***, 1988–89 Adult Education Advisory Committee, May 1989, pages 65–67.

Funding mechanisms must be reassessed and adjusted so that they allow more diverse and flexible educational methods.

Funding mechanisms must be reassessed and adjusted so that they allow more diverse and flexible educational methods. Average Daily Attendance (ADA) is appropriate to classroom instruction when attendance is clearly related to educational achievement. However, technological changes and the need to increase learner access via nontraditional instructional strategies require the development of new funding mechanisms that allow providers more freedom for innovation. At the same time, the diversity of approaches likely to result from innovation will make documentation of skill improvement an increasingly important criterion for the funding of programs.

We propose that adult education funding mechanisms be reviewed and adjusted to encourage program improvement, responsiveness to the diversity of educational clients, more innovation, and the development of alternative instructional methods. These polices and procedures should:

- Allow funding for nontraditional educational methods and technologies that can be provided at any time and any place.
- Increase responsiveness by empowering individuals to access funds and resources from different agencies and programs.
- Allow and facilitate matching contributions from individuals, businesses, volunteer organizations, and community groups.
- Provide bonus funding for excellence in terms of commonly agreed upon Performance Measurements and Program Quality Standards.
- Reduce or eliminate disincentives to providing needed instruction that has higher cost.
- Allocate funds fairly among different types of educational providers with regard to the constraints and regulations that each provider must satisfy.
- Stabilize funding to providers to support staff and program continuity.

Most notably, funding should allow and in some cases encourage flexibility in the timing of learning and the provision of instruction in a wide range of settings (*e.g.* work sites, mobile learning centers, TV courses, modem-linked computer assisted instruction).

Recommendation 2
FUNDING FOR INNOVATION AND PERFORMANCE

Adjust funding policies and mechanisms to allow and encourage any time, any place on-demand instruction through the following methods:

- Use of instructional technologies (*e.g.* computer assisted instruction, TV courses, etc.).
- Innovation and nontraditional educational methods (*e.g.* tutoring, on-the-job training, etc.).
- Collaborative programs.
- Linkage of funding to performance.

Most notably, funding should allow and in some cases encourage flexibility in the timing of learning and the provision of instruction in a wide range of settings.

There are no comprehensive models for the funding arrangements that will be needed in the future. The closest working model is the cross-agency matching and billing arrangements being developed by the State of Michigan as part of its *Opportunity Card* system. Some of the changes proposed above have been implemented on a partial basis. Job training conducted through the federal Job Training Partnership Act (JTPA) and the California Employment Training Panel (ETP) fund training on the basis of performance measured in terms of job placement. Missouri is exploring the "value added"[2] concept as another dimension of performance-based funding. Inter-agency agreements and Joint-Powers Agreements have been made to pool and match funds at the state and local level. However, the task of developing an integrated funding policy that combines flexibility and accountability to serve learner needs has yet to be undertaken.

The above discussion and text of Recommendation 3 will guide the direction this paper and subsequent research.

OBJECTIVES OF RECOMMENDATION

Ten different areas of adult education are authorized by California legislation (See Exhibit 1.1). As in the case of Recommendation 1, ***Funding for Today's Needs***, this recommendation proposes that all California adults, regardless of age, community, or prior educational experience, should have the opportunity to attain basic skills, renew occupational qualifications and pursue other self-improvement.[3] Moreover, current funding policies do not allow adult education providers

[2] Value added refers to the contribution made by instruction. Since each learner begins at a different point, the value added is the learning and knowledge gained from the point when instruction begins. Value added is measured by pre and post testing or testing which monitors learning progress. Both a cost of this "production" and a value for the instructional "production" are calculated. The concept comes from industrial manufacturing and from taxation formula which add taxes to manufactured items at each stage of production.

[3] *Ibid*, page 53.

to meet current demand, let alone plan for future adult education needs.

Exhibit 1.1
THE TEN AUTHORIZED AREAS OF INSTRUCTION

- **English-as-a-Second Language (ESL)**
- **Handicapped Programs**
- **Vocational Training**
- **Programs for Older Adults**
- **High School Level Basic Skills**
- **Elementary School Level Basic Skills**
- **Parent Education**
- **Citizenship Education**
- **Health and Safety Instruction**
- **Home Economics**

The objectives identified in Recommendation 2 form the initial parameters for research and analysis. The 1988–89 Adult Education Advisory Committee noted the need to develop an integrated funding policy combining flexibility and accountability. This working paper is the first step in that process.

The objectives of Recommendation 2 are to identify and test viable policies and procedures that will facilitate and allow (1) anytime, anyplace learning; (2) public-private adult education ventures; (3) promote educational quality via bonus funding; (4) increase flexibility in funds allocation, and (5) stabilize funding to providers (See Exhibit 1.2).

Exhibit 1.2
OBJECTIVES OF RECOMMENDATION 2

FACILITATE ANYTIME, ANYPLACE LEARNING:

- **Make it possible for providers to recover costs incurred in establishing versatile delivery systems**
- **Encourage use of nontraditional educational methods and technologies**
- **Promote delivery systems that allow working adults to increase the time they invest in learning**

PROMOTE PUBLIC-PRIVATE VENTURES WHICH:

- **Serve diverse learner and employer needs**
- **Stimulate joint resource mobilization from the public and private sector**
- **Equitably combine funding from multiple public and private sources**
- **Increase counseling and supportive services to "at risk" learners**

USE BONUS FUNDING TO PROMOTE EDUCATIONAL QUALITY:

- **Strengthen incentives for outstanding performance by providers**
- **Reward successful innovation**
- **Encourage service to the hard-to- serve**
- **Link performance incentives to achieving desired outcomes**

STIMULATE FLEXIBLE ALLOCATION OF FUNDS THAT:

- **Promotes local planning and needs assessment**
- **Supports diversification of program design and delivery models**
- **Target resources to learner needs**

STABILIZE PROVIDER FUNDING TO:

- **Strengthen program continuity**
- **Stimulate local planning and resource mobilization**
- **Support investments in staff development**

The five objectives of Recommendation 2 are elaborated on the next page:

Effective public-private ventures require the ability to efficiently and equitably mix public and private resources.

- **Facilitate Anytime, Anyplace Learning.** The increased sophistication of computer-based learning systems and the emergence of multi-media learning capabilities makes anytime, anyplace adult learning increasingly more viable. New methods of budgeting and cost recovery to (1) purchase learning equipment, (2) depreciate its use, (3) upgrade or periodically replace it, (4) purchase or license the necessary software and (5) provide the necessary staff support are necessary.

- **Encourage Public-Private Ventures.** The ability of the adult education system to support private sector and other basic learning and retraining can increase in importance if appropriate reimbursement methods are available. Effective public-private ventures require the ability to efficiently and equitably mix public and private resources. Likewise adult education providers should be encouraged and rewarded for linking their services functionally and creatively with other human service providers to develop more comprehensive service delivery systems.

- **Use Bonus Funding to Promote Educational Quality.** Policies that reward quality of instruction and reward providers who make special efforts to instruct the hard-to-serve are needed. ADA based funding is insufficient to guide this approach.

- **Stimulate Flexible Funds Allocation.** Prior to Proposition 13, local taxes supported 44 percent of adult school and noncredit instruction. Now the State funds more than 90 percent of instruction in the 10 authorized areas. It regulates reimbursement levels, funded areas of instruction and controls growth.[4] This state control discourages local needs assessment and analysis regarding learner needs and priorities.

[4] Fred Best, ***Review of Training Delivery and Funding Systems for GAIN Evaluation***, Pacific Management Research Associates, 1986; and Barry Stern, ***The California Adult Education System: Background Paper***, Pacific Management Research Associates for the Adult Education Unit, California Department of Education, 1988, cited in Bernadette Dawson, ***Policy Option Paper on Funding for Today's Needs***, Adult Education Institute, March 3, 1990.

- **Stabilize Provider Funding.** It is important that policies encouraging performance-based or flexible reimbursement approaches do not make it more difficult to plan instructional programs, hire and retain instructors and make long term decisions regarding facilities and equipment. This suggests that testing policies that reward instructional quality and retain a "units of service" approach are worthy of exploration.

These five objectives, based on the deliberations of the Adult Education Advisory Committee, support the development of policies and procedures that permit adult education providers flexibility in designing and delivering educational services that respond to diverse learner's needs.

The key to achieving this flexibility and accountability is the ability to measure instructional quality and to reward excellence in achieving learning objectives. This requires an ability to serve a wide range or adult learners, and to encourage the use of the most appropriate delivery system(s) to meet the needs of the learners and the local community.[5] The following sections provide the background and recommendations to begin this process.

[5] Recommendation 7, ***Quality Standards and Performance Measures***, and the resulting policies and procedures will guide much of this developmental work.

Chapter 2

Review of Literature and Information

There is an increased interest in "value-added" and other measures of performance. At the same time there are limited examples of innovative and performance-based funding to use as guides.

There is both a growing interest in methods to evaluate the effectiveness of education and a limited supply of models which have application to an open entry—open exit environment. This chapter (1) reviews and summarizes the general literature concerning models and research on the subject, (2) discusses new developments and considerations, (3) analyzes changing social and economic needs, and (4) presents the key findings.

2.1 General Background

This section reviews the literature and background of public sector experiences in developing funding policies which foster innovation and performance in human service programs. It addresses innovation in service delivery, creative collaboration between stakeholders in local communities, and the use of emerging instructional technologies.

Over the next 20 years there will be substantial pressures from the private sector, elected officials and the general public to demonstrate the effectiveness of adult education and training investments. The role of the public and nonprofit sectors as the presumptive deliverers of these services will be seriously challenged. This is the result of several converging forces: (1) the demands for a more productive work force in the face of global competition; (2) the general acceptance by learners and the public that learning is life-long; (3) the improvements in machine centered instruction, training and tutoring capabilities; (4) expanded public-private education and training collaborations, and (5) an explosion in alternative learning and education opportunities.

These forces will spotlight public policy attention on the effectiveness, efficiency and equity of public investments in adult education, training and retraining and the reasonable alternatives to present approaches. One outcome will be the requirement that learning providers demonstrate their effectiveness in delivering services.[1] This will be done through linking funding and performance measures.

These changes will not come easily. In an environment where there is but one or two service providers, there has been no provider interest in linking performance and funding. Providers object to this added scrutiny. Most study and analysis has focused on measuring the learning inputs (*e.g.* learners, instructors, other resources) rather than the outcomes (*e.g.* learning gains, costs and benefits).

While there has been grumbling and minor experimentation to test major alternatives, serious efforts to link funding and performance have not been attempted. This creates an environment where possible reforms go untested and pressures for massive restructuring result.

For example, this reality has led to the current controversy regarding "student choice" programs in grades K–12. John Chubb of the Brookings Institution concludes that his study of 20,000 students, teachers and principles in a sample of 500 K–12 schools shows that government has not solved the education problem because education *is* the problem.[2] Chubb feels that because schools are essentially a monopoly, they have become burdened with excessive bureaucracy and have stifled student achievement. He argues for a market-forces approach based on school competition and parental choice as the only way to reinvigorate public education.

PROS AND CONS OF AVERAGE DAILY ATTENDANCE APPROACH

The traditional method for reimbursing adult education providers is "average daily attendance" (ADA). In the case of adult schools one unit of ADA is the equivalent of 525 student attendance hours. Reimbursement rates are tied to this unit measure.[3] Ceilings for each provider in terms of ADA units have been established. They are periodically adjusted by legislated multipliers.

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[1] This approach underpins much of the developmental work in implementing the California Adult Education Strategic Plan.

[2] John E. Chubb, "A Blueprint for Public Education", ***The Wall Street Journal***, Wednesday, June 6, 1990. This article is based on Mr. Chubb's book that he co-authored with Terry M. Moe entitled ***Politics, Markets and American Schools***, Brookings, Washington D.C.

[3] Recommendation 1 addresses "Funding for Today's Needs". See Bernadette Dawson, ***Funding for Today's Needs: Working Paper on Strategic Recommendation 1***, Adult Education Institute for Research and Planning, Sacramento, March 3, 1990. This paper addresses funding issues associated with the current average daily attendance (ADA) based funding method. It makes a strong case for the need to increase the level of adult education funding.

It is clear that more resources are needed to serve the entire state and meet the demand for services.[4] This ADA approach works reasonably well. It gives the provider a clear basis for planning resource allocations, scheduling classes, and designing curriculum. While there are clear inequities among districts and some parts of the state go unserved, the ADA model has become a comfortable method for planning, estimating and preparing for adult education.

The ADA approach comes from the K–12 system where students are required, for the most part, to be in school. In this context attendance is a simple and equitable measure of persons participating in learning.

However, in the case of the adult learner other principles apply. Most importantly the adult learner participates voluntarily in education. He or she is not required to be a certified learner, nor to attend learning sessions.

It is important to examine the pros and cons of using the ADA funding approach for adult education before discussing alternatives to it. **Exhibit 3** sets forth an analysis of the pros and cons of the ADA approach to adult education reimbursement.

On balance, there are two positive aspects of the ADA approach. They are the historical precedent based on the K–12 model for funding and the ease of use, especially for planning. The major disadvantages are: (1) the implicit disincentives to serving the more difficult learner, (2) little demonstrated relationship between seat time and learning, (3) the seat time approach is hard to apply to untraditional adult education approaches, and (4) no link between funding and performance.

[4] Dawson, ***Funding for Today's Needs: Working Paper on Strategic Recommendation 1, Ibid.*** Ms. Dawson makes a very good case for expanding the funding. This research and analysis, that will be revised to include community college noncredit activities, serves as an important background to this paper.

Exhibit 3
PROS AND CONS OF ADA FUNDING

PROS

(1) Funds distributed on equal cost basis statewide.

(2) Providers can plan and allocate resources based on their expected ADA and CAP.

(3) Funds can be allocated among the ten authorized areas based on local need.

(4) Limited restrictions on how funds are used.

(5) Easy to administer.

CONS

(1) Funds do not reflect real operating costs.

(2) Disincentives to serving the hard-to-serve (*e.g.* equity).

(3) Funds not related to individual or institutional outcomes (*e.g.* performance and effectiveness).

(4) No current relation between local demand and resources (*e.g.* funds distribution across the state).

(5) Disincentives for high productivity (*e.g.* efficiency).

(6) Learning measured by hours of attendance (*e.g.* effectiveness, efficiency and equity). No incentive to measure learning gains and performance.

(7) Presumption of class centered learning (*e.g.* effectiveness, efficiency and equity).

(8) Inappropriate for untraditional approaches like computer-based, distance learning, or volunteer taught methods.

THE NEED FOR INNOVATIVE FUNDING APPROACHES

Approaches to funding that go beyond attendance driven methods (*e.g.* average daily attendance) usually fall into one of two camps: (1) preferential funding of especially promising strategies or service delivery techniques (categorical funding) and (2) performance-linked funding. This section focuses on linking performance and funding as a means of achieving desired interventions.[5]

The traditional perspective on management approaches for achieving socially desirable goals has been that market approaches were not effective means to achieve "quality" objectives.[6] Historically, the predominant funding approach used by both private sector philanthropy and the public sector for support of for human service programs has been cost-reimbursement for support costs incurred.

Over the past 20 years, there has been growing concern regarding cost-reimbursement as a basis for funding of human services.

Over the past 20 years, there has been growing concern regarding cost-reimbursement as a basis for funding of human services. This concern stems in part from public and political sentiment that human service institutions be more accountable, not only for doing the "right thing," but also for succeeding. A valid argument underlies this wave of political sentiment. Because public sector resources are limited, virtually all funding requires choices among various competing goods.

In the field of health care, for example, this concern has led to new funding approaches tying reimbursement to "units of service" (services delivered, not underlying costs incurred). While there is consensus that quality health care is a valuable objective, lack of accountability, it is argued, may not only decrease cost-effectiveness but may actually decrease quality of service.[7]

There has been a growing recognition that the society must support a variety of "human capital" development goals while at the same time seeking innovative service delivery methods. Funding tied to outcomes rather than funding tied to inputs, (*e.g.* "cost reimbursement") stems, in large measure, from the realization that there are new, innovative, and radically different ways to accomplish "old" objectives.[8]

[5] ***Funding for Today's Needs: Working Paper on Strategic Recommendation 1. Ibid.***

[6] Burton A. Weisbrod, "Rewarding Performance That is Hard to Measure: The Private Non-Profit Sector," *Science*, May 5, 1989.

[7] The most cogent criticism of the use of "diagnostic-related groups" (DRG's) or "units of service" is that they are primarily oriented toward cost-containment, not toward quality care. A different criticism is that underlying costs for service delivery vary substantially from area to area. The policy arguments against DRG's are valid with respect to ADA, on both criteria.

[8] Michael B. Katz in his outstanding book, ***The Undeserving Poor***, (Pantheon, 1989) correctly identifies the inherent difficulties in the presumption that research and evaluation should guide social policy decisions (see especially pages 79–123).

The need to tie funding to outcomes, not inputs, is inevitably accelerated when promising new technologies become available.

For example, the Ford Foundation's very strong support for "educational television" in the 1970's stemmed from the recognition that available technology provided new ways to communicate information.[9] The need to tie funding to outcomes, not inputs, is inevitably accelerated when promising new technologies become available. "Old" inputs which were funded may no longer be part of service delivery.

Traditionally education has resisted performance-based funding because: (1) quality is difficult to measure, (2) there is no adequate measure of educational success, and (3) a global outcome involving not only the development of specific skills but intangibles—the love of learning, curiosity, creativity—is difficult to define. Yet, in recent years, there has been growing interest, particularly in higher education, in the concept of value-added measures of the performance of educational institutions.

An important recognition of the initial experimentation in measuring the complex outcomes of educational intervention is that performance-related organizational incentives may foster innovation even if the performance measure does not fully capture the richness of the outcome. This is possible because the measures of performance need only be adequate proxies for the educational outcomes which are actually desired. This perspective recognizes that all desired learning outcomes may be very difficult to measure directly.

To be effective, a performance-based system must: (1) be used uniformly, (2) be "fair" or "neutral," and (3) correlate performance measures well with desired outcomes. These are the minimum conditions. Additional criteria may be used to judge whether a particular approach to linking funding and performance achieves its desired results.

The use of performance standards in the *Job Training Partnership Act* (JTPA) provides perhaps the most extensive body of experience with performance-based funding. The JTPA experience is particularly interesting because the population served is largely the same served by adult basic education programs. The 10-year experience has recently been carefully and critically reviewed.[10]

California's implementation of the GAIN program has initiated a welfare reform effort with performance-related funding of client services.[11]

[9] It is useful to note that virtually all the early experiments in "distance learning" equated education with the communication of information, without much attention to the educational process. The limitations of the technology were not as much a problem as the limitations of the concept of the entire educational mission. At the same time that many continuing education experiments were failing, ***Sesame Street*** was revolutionizing our institutional understanding of early childhood education.

[10] JTPA Advisory Council, ***Working Capital: JTPA Investments for the 90's***, March 1989.

[11] National Governors' Association, "Welfare to Work", 1989. Additional information will be available from four case studies (forthcoming, April 1990)

2.2 Models and Proposals

This section reviews five existing funding innovations pertinent to adult education:

- JTPA performance standards
- Welfare reform performance-based funding
- Private sector performance-based funding
- Value-added funding in higher education
- California distance learning courses

The strategy for linking funding to performance must be scrutinized with great care in order to avoid disincentives to quality service and to allow service providers to optimize the service flexibility.

This base of experience confirms the feasibility of linking funding to performance and organizational efficiency. However, the strategy for linking funding to performance must be scrutinized with great care in order to avoid disincentives to quality service and to allow service providers to optimize the service flexibility. Key elements in making performance-based funding foster innovation include the careful choice of performance measures and providing organizations adequate flexibility to explore a wide range of approaches to achieving the desired objectives.[12]

JTPA EXPERIENCE IN LINKING FUNDING TO PERFORMANCE

As a result of growing public concern about the accountability of the federal employment training system under the *Comprehensive Employment and Training Act* (CETA), its replacement, the *Job Training Partnership Act* (JTPA) mandated that the Department of Labor establish performance standards for Service Delivery Areas (SDA's).

JTPA performance standards require that SDA's achieve performance benchmarks in order to be funded, but do not link level of funding to performance (statutorily, the funding is based on a formula). The performance benchmarks are "floating" in that they tie performance requirements to national norms and local. Thus, SDA's must meet minimum standards. However, there are rewards for exceeding the minimum standards.

[12] ***Business Week***, March 26, 1990, "Profiting from the Nonprofits". This article emphasizes the need for nonprofit organizations to clarify their mission, to be very explicit in defining their objectives, and careful in evaluating their operations. The management information system proposed in policy option papers 3, 4 and 8 are intended, in part, to support the organizational self-evaluation activities which allow innovative service delivery in an environment where funding is linked to performance.

The approach taken by the Department of Labor in establishing the JTPA performance standards created two countervailing measures of performance—output and cost. For adults the strict outcome measures are: (1) the entered employment rate, (2) the average wage at placement, and (3) the number of welfare recipients entering employment. These outcome measures are balanced with the measure of cost-effectiveness, "cost per entered employment."

By linking performance to output measures only, JTPA created strong pressures toward "creaming," providing preferential service to the clients most likely to succeed.

Unfortunately, there may be a "downside" to this approach. By linking performance to output measures only, JTPA created strong pressures toward "creaming," providing preferential service to the clients most likely to succeed. To offset this tendency, the performance standards included a large set of "local adjustment factors" designed to account for the variation in overall performance created by local economic conditions and the particular "mix" of clients served (input factors). Thus, areas that had greater proportions of "hard-to-serve" clients were able to justify lower performance outcomes.

Variations in local conditions, including both economic conditions and client mix, accounted for about 35–40 percent of overall SDA performance. This suggests that while local conditions significantly affected performance, other factors (presumably quality of the program intervention and effectiveness of service delivery) were important predictors of outcomes.[13] However, one very interesting finding from the earliest performance modeling efforts was that educational attainment was as good a predictor of outcomes as were age, race, and sex, (*e.g.* educational status was one of the primary determinants of employability).

The problem faced by the Department of Labor in establishing a performance-linked system was one of measurability. The employment training intervention was designed to affect a variable that is extremely difficult to define—"employability." While the measures of the "value" of the program intervention, Entered Employment Rate (EER) , and WAGE (postprogram wage rate), were solid, tangible outcomes, there was no satisfactory measure of client "employability" prior to program participation. Consequently, the performance standards were likely to similarly reward both quality interventions and strategies that screened out the hardest to serve ("creaming").[14]

Many analysts also questioned the validity of the "entered employment" measure because the problem faced by JTPA clients was not an inability to be employed, but an inability to secure stable jobs with career ladders. Consequently, the

[13] "Title II-B/C FY 1983 Performance Standards and Performance Modeling Issues," U.S. Department of Labor (no date).

[14] While the performance standards adjust for client mixes that are presumed to be hard-to-serve populations, they do not preclude a strategy of screening out all but the most employable among the "hard to serve" groups, making "creaming" a viable strategy for paper success, despite the adjustment factors intended to rule it out.

"entered employment" measure of performance was felt to be a related, but rather poor measure, of the actual desired outcome—employability (including permanency of employment and career advancement opportunities).

It was not clear whether the desired outcomes—employment and increased earnings—stemmed from the program intervention or from other unrelated factors.

Another serious problem was that the measure of "cost-effectiveness," the "cost per entered employment" created very strong incentives to decrease the level of service intervention. In fact, as planned, average cost of service intervention under JTPA fell significantly. However, it was not clear that this measure of success increased program effectiveness or decreased program quality. Finally, there also were concerns that measurement of program success in terms of employment reflected the labor market conditions of local SDA's rather than the quality of service. For example, a SDA located within a thriving local economy might have high success rates regardless of the quality of service.

Ultimately, the problem facing the Department of Labor in relation to its use of performance standards was one endemic to all program evaluation. Without control groups, it was not clear whether the desired outcomes—employment and increased earnings—stemmed from the program intervention or from other unrelated factors.[15]

Almost a decade (1982–1989) of experience with JTPA performance standards has shown that structural problems with linking performance and funding inadvertently created disincentives to quality. However, the linkage between performance and funding was successful in some respects. For example, fostering innovative collaborations between the public and private sector and diversifying the approaches used to deliver services have both proven successful.

The recent report of the JTPA Advisory Committee straightforwardly addresses many of the inadequacies of the "first-generation" performance incentives and recommends several revisions in the JTPA performance standards. The full set of recommendations provide a comprehensive and well-articulated employment training reform package. The most relevant development for performance-linked funding is the recommendation to create a new overall performance measure for JTPA based on state or national basic skills competency measures.[16] At the same time, the job placement measure is retained but enriched by increasing emphasis on job retention. Related recommendations focus on the management information system requirements, clearly defined data elements

[15] "Recommendations of the Job Training Longitudinal Survey Research Advisory Panel," Office of Strategic Planning and Policy Development, ETA, U.S. Department of Labor, November, 1985.

[16] This suggests that California will realize strategic advantages by moving rapidly to explore "enriched" measures of basic skills competencies that might be suitable for national adoption by the JTPA system or a number of states. As in other areas, establishment of the de facto MIS standard improves competitiveness in securing discretionary funding that is linked to that performance standard. The slow pace of JTPA authorization makes it most likely that the Department of Labor would not move to explore the question of specific basic skills competency standards until FY '91 at the earliest, but more probably, FY '92.

and common cross-program data elements, that must be implemented to make a performance-linked strategy feasible.

The importance of the JTPA Advisory Committee report lies not only in the fact that it will provide the basic structure for future employment training policy at the federal level, but, also its retention of a performance-linked funding strategy which has been modified to overcome some of the problems implicit in the first iteration of the system.

The observed drawbacks to the JTPA performance system have several implications relevant to California's design of performance-linked innovative funding approaches. The following are of primary concern to us here:

- JTPA relied on an inadequate measure of performance. Because job placement *per se* was not well correlated with long-term employment stability or career advancement, the performance standards lowered service quality.[17] The outcome measure used in performance-linked funding should measure the desired program outcome reliably. If it is infeasible to measure the desired outcome reliably, the outcome measure used to gauge and reward performance must be reliably correlated with the desired outcome.
- JTPA's complicated system of local adjustment factors did not successfully compensate for the lack of a system to directly measure individual employability at intake.[18] A funding strategy which links performance to outcomes only should not be as highly favored as one that links funding to the value-added by the program intervention.
- The Department of Labor maintained complex, process-oriented measures of grantee compliance that served to weaken the thrust toward a performance-based system. Performance-linked funding should allow programs the operational flexibility to test innovative service delivery approaches. When performance-linked funding is mixed with process-oriented program

[17] The difficulty with job placement as a performance measure of employability was not simply that the two outcomes are not perfectly correlated. In a significant number of cases they are inversely related, *e.g.* in the case of casual, easy to access, dead-end jobs. While the post-program wage measure served to improve the correlation between employment and the desired outcome (employability), it did not carry adequate weight to yield the desired incentives, suggesting that it might be useful to explore the desirability of weighting performance measures if multiple measures are used.

[18] Vocational rehabilitation programs suffered from problems similar to JTPA in that organizational incentives were based primarily on outcomes, without an adequate measure of how "difficult" an individual client would be to serve. One possible solution was presented by the development of a easily used checklist that appeared to have good validity in predicting how employable a client was. This instrument, the Functional Assessment Inventory, is an excellent example of an assessment tool which measures a complex global attribute (employability) and which is also easily used by practitioners. See, Functional Assessment Inventory Manual, Stout Vocational Rehabilitation Institute, University of Wisconsin, 1984.

management incentives, the process oriented incentives will dilute the effect of the performance incentives.

- JTPA performance standards did not reward excellence. They were designed only to insure adequacy and, consequently, produced only adequate outcomes. Procedures for rewarding exemplary performance work best if they have a graduated range of incentives to continue to reward increases in performance, not simply to guarantee a "minimum performance" or performance "floor."
- JTPA "performance standards" designed to increase cost-effectiveness were not true performance measures and served primarily to decrease cost without increasing effectiveness. Combining performance incentives with cost-control incentives provides a mixed message to service delivery organizations and does not work as well as a simpler set of performance incentives that provide funding directly related to "value" of the intervention.

All in all, performance based funding systems applied by JTPA documented the fact that outcome-related funding impacts how programs function and underscores the need to carefully design performance measures to reflect desired outcomes.

WELFARE REFORM EXPERIENCE

Efforts to develop comprehensive strategies to move welfare recipients from AFDC into employment have focused a great deal of attention on the measurement of educational competencies among disadvantaged groups. California's GAIN legislation, because it was the earliest and the largest of the comprehensive welfare-to-work efforts, provides an important base of experience for designing the link between performance and funding. The program represents the largest experiment with program-wide measurement of educational competencies at intake.

The GAIN experience provides a good example of the desirability of measuring the value of an educational intervention directly in terms of outcomes because the GAIN appraisal data reveal that input measures (years of education) correlate imperfectly with actual competencies. Fifteen percent of high school graduates enrolled in GAIN had not

achieved "high school" reading competencies and 55 percent had not achieved high school math competencies.[19]

The GAIN program measures the program related educational achievement by pre/post testing program participants on their basic skills. Experience with the *Comprehensive Adult Skills Assessment System* (CASAS) reading and mathematics competency assessment tools provides an example of the sort of performance measure that can be the basis for performance-linked funding.

This important experience is yielding very useful assessment and procedural information. This experience also raises many new issues:

- How well do the CASAS measures of basic skills competencies correlate with the "rich" spectrum of skills adult education programs serve to foster, including problem-solving ability, communication skills, and writing skills?
- What is the individual variance in rates of learning as measured by the CASAS appraisal system? If there is high variance, is the variance random, or do patterns emerge that might appear to require adjustments for specific groups of "hard-to-serve" learners in order to insure a fair and neutral link between funding and performance?
- Is learning as measured by the CASAS appraisal system linear across the full range of educational competencies? If it is not linear, how much do learning rates vary and how might a performance-funding link successfully adjust its formula to beginning, intermediate, and advanced learners?
- To what extent are learning gains on the CASAS an artifact of retesting? What protocols can minimize test-retest effects (*e.g.* by setting minimum time intervals for pre/post tests)?

A recent report suggests that in at least one area of basic skills competency, English language ability, learning is not linear. The shape of the learning curve was different for the two specific skills (reading and listening) that were tested.[20]

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[19] "Third Report: GAIN Appraisal Program," CASAS, Figures 16 and 17, August 1989.

[20] "Evaluating Student Progress and Student Goal Attainment for 321 Funded Agencies," CASAS, September, 1989.

The National Governors' Association (NGA) is preparing a report on the national experience with welfare-to-work programs, including four case studies. The NGA study indicates that states are using a variety of measures of basic skills competencies. Thus, CASAS should be examined carefully in comparison to other measures of educational performance in developing basic skills.

In general, the welfare-to-work programs will provide important empirical information on basic skills acquisition. This is because virtually all efforts incorporate fairly extensive management information systems (MIS) that provide the basis for answering some of the technical questions relating to the performance-funding link.

VALUE-ADDED POSTSECONDARY MODELS

A number of states have taken concrete steps to tie institutional accountability to student assessment by mandating assessment programs that measure student achievement and place students in entry level English and math courses.

The growing cost of higher education and other pressures on public colleges and universities have increased demands that they be more accountable for their services. A number of states have taken concrete steps to tie institutional accountability to student assessment by mandating assessment programs that measure student achievement and place students in entry level English and math courses.[21]

States and institutions considering such approaches must determine how institutional contributions to student knowledge should be measured and what student outcomes should be assessed.[22] An American Council of Education survey indicated that three-fourths of the nation's colleges expect to introduce some form of student assessment within the next several years.[23] Twenty five percent of the reporting institutions reported that their states (1987) required assessments of student performance. Education Commission of the States' data indicated that about one-third of the states have some form of statewide assessment, assessment which frequently is required by state law or regulation.[24]

In 1987 the California Postsecondary Education Commission (CPEC) reviewed the means of funding excellence in postsecondary education. This study was able to

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[21] The research for this subsection is taken from Jo-Ann Intili, Dennis Porter, Daniel Weiler, and Paul Berman, ***Student Assessment and Institutional Accountability in Higher Education***, a report to the National Education Association, Berman, Weiler Associates, Berkeley, 1988. See also ***Involvement in Learning: Realizing the Potential of American Higher Education***, National Institute of Education, Washington D.C., 1984.

[22] Research and advisory activities accompanying Recommendation 7 (Quality Standards and Performance Measures) of the 1988–89 ***Strategic Plan for Adult Education*** will address the issue. See Fred Best, Jon Ebeling, Frederica Shockley, and Van Wooley, ***Quality Standards and Performance Measures; Policy Option Paper on Strategic Recommendation 7***, Adult Education Institute for Research and Planning, Sacramento, California, May, 1990.

[23] American Council on Education, ***Campus Trends 1987***, Washington D.C., 1987, cited in Intili and Porter, *et al.*, ***Ibid***, page 2.

[24] Education Commission of the States, ***Assessment and Outcomes Measurement: A View From the States***, Denver, Colorado, March, 1987, cited in Intili and Porter, *et al.*, ***Ibid***, page 3.

reduce the numerous typologies of college outcomes to three common denominators:[25]

- Student knowledge—the student's recognition and recall of information.
- Students' applied skills—their ability to apply the knowledge they possess. These skills address the basic intellectual functions like reading, cognitive skills such as thinking and developing an independent line of inquiry, and knowledge building skills, such as those required to make sense of a text or body of knowledge.
- Students' abilities and values—their ability to tolerate ambiguity or diversity of opinion and to judge an argument on the basis of its merits rather than the source.

A study by Berman, Weiler Associates suggests that while there may be some consensus on minimum definitions of quality, there is little agreement on the relationship between performance on a test and the ability to succeed in the real world. Different approaches used in three states are identified as follows.

Florida: Quality Control Approach

The Florida postsecondary approach to educational achievement began in the early 1980's. It uses a performance-based approach that requires students to pass the "College-level Academic Skills Test" (CLAST) to receive an Associate of Arts (AA) degree or be accepted as juniors in four year public colleges and universities. The CLAST is comprised of four subtests in computation, reading, writing and an essay. Students who initially fail the CLAST can take up to 35 credit hours in the upper division before having to pass it.

The CLAST initially was used as a pass-fail test, but the law was amended to permit students to take the test whenever they wish, and as often as necessary in order to qualify for upper division public education. CLAST was not designed as a predictor of upper division success, but as an indication that students have the basic competencies needed for success in college.

The implementation of the 1989 CLAST standard has proven controversial because fewer Black and Latino students were able to pass it in its design stage.

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[25] California Postsecondary Education Commission, *Funding Excellence in California Higher Education*, Sacramento, 1987, Report 87-18, cited in Intili and Porter, *et al.*, *Ibid*, page 10.

Missouri: Multiple Measures of Institutional Quality

Missouri has required its four year colleges and universities to develop a program to evaluate their general curricula as part of an examination of their mission and goals.

Missouri has required its four year colleges and universities to develop a program to evaluate their general curricula as part of an examination of their mission and goals. Each institution is expected to use multiple measures of assessment including (1) surveys of students, graduates, and employers, (2) the collection of data on retention, and (3) analysis of other activities.

Missouri, like Florida, has had early experience in postsecondary student assessment. However, it was an institution, Northwest Missouri State University (Kirksville), that initiated a program in the mid 1970's. Their student assessment program has had three components:

- A value-added component based on the ACT and ACT College Outcomes Measures Program (COMP) to measure student growth in general knowledge during the first two years of college.
- A "comparative achievement" component to demonstrate student achievement in the major field of study by means of a test administered at the end of the senior year and required for graduation.
- An "attitudinal" component designed to assess student perceptions of their own development, the university, and university services via surveys administered at different points in the student's education.

The strengths of this program are its comprehensiveness, straightforwardness, and ease of use. It has been given high marks for:

- Using assessment information as a tool to refine the university's mission.
- Making the information readily available and by providing leadership to the President and senior administrators.
- Creating conditions where information is used to encourage improvements, not punish poor achievement.
- Encouraging and obtaining facility involvement in program analysis and development.

More recent efforts have focused on refining the university's mission and goals within the state university system.

Tennessee: Value-Added Approach

Tennessee uses a performance-based funding approach that originated within its State Department of Education, but was later legislated.

Tennessee used a performance-based funding approach that originated within its State Department of Education, but was later legislated. Their approach provided up to five percent of an institution's annual budget for instruction may be awarded on the basis of its ability to demonstrate accomplishments in five performance areas within the general education curriculum, students attitudes and opinions, and student achievement in major fields.

The 1984 criteria to determine performance funding eligibility were:

- The proportion of programs eligible for accrediting that are accredited;
- The proportion of programs that initiated a peer and comprehensive review; and especially for programs that did so, those that demonstrate improved student performance;
- The demonstration that the general education component, using the ACT-COMP exam, and demonstration that the performance of seniors exceeds the mean of the value-added computed for seniors at a group of comparable institutions;
- The demonstration that surveys of students, alumni, community members, and/or employers have served as the basis for special improvements in campus programs; and
- Implementation of a campus-wide plan for instructional improvement based on items 1–4 above.[26]

The funding formula uses the base instructional allocation to the institution. It then applies on top of it some portion or all of the five percent of the allocation. This is determined by the extent that each of the state criterion was met. The criteria are given different weights with criteria four and five accounting for only 10 percent each; criteria one and three 25 percent each, and criterion 2 rated at slightly higher than 30 percent.

Costs of testing were estimated to be about $15 per student and were largely borne by the State Department of Education. Integration of the data into college and university planning has varied by institution.

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[26] T.W. Banta and H.S. Fisher, ***Performance Funding: Tennessee's Noble Experiment in Promoting Program Quality Through the Assessment of Outcomes***, paper presented to the American Education Research Association, April 24, 1984, and cited in Intili and Porter, *Ibid*, pages 28–29.

This value-added approach has reportedly influenced the type of curricula taught, the way curricula are implemented and the frequency and content of ancillary support such as faculty advising. It has helped generate pressure for more resources for students deficient in skills, and more remediation.

California State University, Chico: Distance Learning Approach

Distance learning, the provision of live or recorded one way or interactive instruction[27], is one medium of instruction that may benefit from reimbursement methods other than those of the ADA. California State University, Chico has a distinguished record of providing telecourses and video teleconferencing.

For the most part these courses, including special degree courses offered for selected technology firms, are developed on a fee-for-service basis. This requires the University to estimate (1) costs of the course development and presentation, (2) fixed transmission costs, (3) the number of persons who will take the course and (4) what price they are willing to pay for the course. According to Ralph Mueter, Dean of Regional and Continuing Education, this often places the University at risk of not being able to recover its costs. At the least, this reimbursement approach makes it difficult to build in the fixed overhead costs associated with this high tech instructional approach.

Dean Mueter favors a funding approach for distance learning that includes a fixed base rate that can be rationally calculated and then a variable rate of reimbursement based on persons taking the telecourses.

2.3 Summary

Review of useful models and proposals indicates that performance measures can be used uniformly, fairly or neutrally, and performance can correlate well with desired outcomes. Unfortunately, there does appear to be an existing model that seems entirely appropriate for adult and noncredit education.

However, there are elements and experience from the several models examined that provide useful guides. They are:

[27] Interactive refers to the ability for learners to respond to instruction by asking or answering questions.

- Performance measures must take into account the differing levels of learners.
- Performance measures should address the value-added by the intervention.
- Performance measures should be based on life skills competencies.
- Only one model (Tennessee) seeks to reward quality performance for achieving standards.
- Another model (Missouri) demonstrates the feasibility of developing "rich" measures of quality educational outcomes.
- Linking funding to performance will require developmental efforts to craft a system tailored to the specific needs of adult education.
- Careful testing of performance-oriented funding incentives will be needed to determine exactly how theoretically attractive systems actually change educational providers' behavior; and.
- Linking funding to performance will require developmental efforts to craft a system tailored to the specific needs of adult education.
- Effective linkage of funding to performance requires that programs be given the maximum possible flexibility to meet performance objectives.

The next section discusses other developments that must be considered in designing funding systems that encourage innovation and quality performance. In particular, the examination covers the growing importance of technology in permitting instruction to be more personalized and flexible, and social trends that will shape adult education needs and services over the next decade.

2.4 New Developments and Considerations

Many influential trends bear directly on the issue of funding for innovation and performance, and must be considered carefully in deliberation regarding policy options for funding innovation. These trends include:

(1) **Learning Technologies.** The introduction of new learning technologies has and will continue to change the fundamental nature of structured adult learning.

(2) **Workplace and Career Change Requirements.** The changing workplace requires that workers in virtually all occupations have new types of "basic" skills. Additionally, increases in career mobility require that workers acquire new capabilities to participate in lifelong learning.

(3) **Population Trends and Immigration.** Immigration of foreign-born workers with limited English ability and literacy and little educa-tional experience creates high levels of demand for new education services for adults.

(4) **School Dropout Rates.** Continuing high rates of junior and high school dropout require maintenance of "remedial" education services.

These trends relate to the outcomes of adult education, the demands made by society of its educational institutions. But they also relate to the process of education, how educational institutions go about meeting demands now and in the near future. In the following section, the implications of each of these trends for policy decisions regarding funding for innovation and performance are reviewed.

NEW TECHNOLOGIES

Two waves of technology are affecting our views of education and the delivery of adult education services.

Two waves of technology are affecting our views of education and the delivery of adult education services. The first technology, television, led to the development of "distance learning." The second, computer technology, has led to the development of "computer managed instruction" and "computer assisted instruction."

In some respects, these technological developments are two separate waves of rapid technological change. In other respects, they overlap.

Distance Learning

The development of "distance learning" in the 1970's catalyzed a fundamental reevaluation of the nature of learning. "Distance learning" activities include broadcast and satellite television, and Instructional Television Fixed Service (ITFS) delivered narrowcasts.

The earliest experiments with both adult and K–12 learners revealed that effective learning must be much more interactive than had been appreciated earlier. The student confronted with a "instructor" 20 miles or 3,000 miles away did not learn as well as those in the classroom. This was true even with "return

audio" that allowed distant students to ask questions of instructors.[28]

Technology, by inadvertently separating transfer of information from personal interaction, focused attention on the importance of the learning context, of active learning, and of the need to create supportive learning environments for distant learners.

Technology, by inadvertently separating transfer of information from personal interaction, focused attention on the importance of the learning context, of active learning, and of the need to create supportive learning environments for distant learners. Consequently, telecourses (a term unheard of before the 1970's) began to rely on "integrated curriculum packages" as a means of providing learner support services. Currently, the standard telecourse package includes pre/post tests, a companion textbook, and a variety of instructor (or group leader) technical assistance manuals. In many cases, the integrated curriculum design was designed specifically to support "teaching" efforts by nonprofessionals.[29]

This educational strategy was supported heavily by the U.S. Department of Education and the Corporation for Public Broadcasting. It led, for example, to telecourses focusing on sex role stereotyping, mental health, and career awareness. Because the use of television allowed the presentation of highly structured dramatic scenarios, it became clear that the purpose of the "educational intervention" was not only to convey knowledge but to change people's life skills in global, but well defined, ways.

The marriage of education and mass media to create the phenomenon of "distance learning" via telecourses also brought with it the technology (and concerns) of audience measurement. From the beginning, demographics were an important part of audience measurements (*e.g.* the measurement of success in reaching specific, standardized target audiences). In the 1980's program design and measurement concerns were expanded to include the concepts of "audience segments" as a richer description of demographics, and formally defined measures of programs' psychological impacts on audiences via "quality ratings."[30]

The availability of television for "distance learning" has revolutionized the concept of learning, particularly adult learning. Several realizations accompany this revolution. Learning occurs in a wide range of informal social contexts.

[28] There is an extensive literature on the earliest experiments in satellite-delivered adult education, as many of the efforts were federally funded "action research" projects. Adult education projects consisted primarily of continuing education for professionals in remote areas. There were also efforts to improve the quality of K–12 education in Appalachia. There was not, to our knowledge, any effort to use satellite-delivered material for adult education.

[29] One example of this sort of curriculum package is materials developed by Kissam and Richardson for "teaching" minority inner-city youth about careers—designed for "learning environments" ranging from churches, to community employment centers, to traditional classrooms. ***The YES, Inc. Guidebook*** (Kissam and Richardson, Corporation for Public Broadcasting, 1984).

[30] The SRI International population topology referred to as VALS emerged from growing interest in audience segmentation while "quality ratings" stemmed from a multi-year, multi-million dollar research effort funded by the John and Mary Markle Foundation as part of a strategy to increase the quality of U.S. television. This impact-evaluation technology, although currently underutilized is, technically well developed and available for use in learning contexts that are straightforwardly educational, as well as in "learning" product loyalty. See "Television Audience Assessment—President's Essay," Lloyd N. Morrisett, The John and Mary Markle Foundation Annual Report, 1985/1986, 1986/1987.

The "value" of education cannot be fully captured by measuring a single dimension of learning or progress along a standardized continuum such as grade level. Several elements of learning that were joined in face-to-face communication must be addressed separately in the context of distance learning.

In distance learning, the "value" of the educational intervention is not related as much to the amount of exposure time but, rather to the amount of time and quality of material.

The immediate and inescapable consequence of the use of new modes of transmission for distance learning was the need for new funding approaches. In distance learning, the "value" of the educational intervention (the impact on the learner in achieving well specified educational goals) is not related as much to the amount of exposure time but, rather to the amount of time and quality of material. In turn this meant that substantial and new demands were placed on funding since the bulk of costs were "up-front" costs for program research and development.[31]

Distance learning also required that educational funding include methods to depreciate hardware investments necessary to use the new technology. Current use of telecourses, while funded by ADA, entails new sorts of expenditures, chiefly for licensing (cost recovery for R&D), course administration (student enrollment and testing), and transmission (equipment amortization and operating costs).

Funding mechanisms for distance learning have typically been very different from those traditionally used for funding educational services. These funds generally include revenue from (1) traditional cost reimbursement grants to achieve specifically identified objectives, (2) private sector underwriting, and (3) licensing and/or other user fees. The result is that providers (program developers) are required to undergo quality review by a variety of differing interest groups. Approaches to "measuring" quality include technically sophisticated techniques stemming from market research such as focus groups and survey research. Very substantial "quality" bonuses are available but there is a strong insistence on risk management.

As in many private sector enterprises, there is a willingness to accept high levels of risk but not without mechanisms to spread the risk (*e.g.* funding consortia) and to distribute projected revenue from program users (*e.g.* highly articulated contracts licensing a variety of rights).

[31] Funding for development and production of state-of-the-art telecourses, as measured for example by the level of funding for Annenberg Foundation telecourses in higher education, are in the order of $500,000 to $1,000,000 per program hour.

Computer-Based Learning

Computer-based learning, beginning with Control Data's initial development of PLATO, operating on a mainframe or super minicomputer system during the 1970's, has only come to have a major impact from 1986 on, at the point where software and hardware for adult education become available off the shelf.

Where television revolutionized thinking about the objectives of education, computer-based learning systems have come to revolutionize thinking about the process of education by making it possible for learning to become highly interactive.

Where television revolutionized thinking about the objectives of education, computer-based learning systems have come to revolutionize thinking about the process of education by making it possible for learning to become highly interactive.[32] Current computer technology makes it possible for "programmed learning" to be highly individualized; in practice, few systems actually make use of the full capabilities of the technology for individualizing learning (via multiple-branching decision trees).

The "first generation" computer-based learning systems are largely text-based with varying degrees of graphics used as a means of packaging the text. The "third generation" technologies are now beginning to combine television and microcomputer technology (digital video) in interactive computer systems that mix video, audio, text, graphics and animation into a seamless presentation of information and potential learning approaches. State-of-the-art systems now can incorporate the full range of video effects available in high-end television with the complex interactivity of computer programs.[33]

This new multimedia approach is made possible by the ability to compress the tremendous number of digitized video picture elements (pixels) required to make up images, and the emergence of new, inexpensive, mass storage devices capable of holding the digital information—Compact Disc Read Only Memory (CD-ROM).

Both the early and upcoming generations of computer-based learning systems have the capability of generating detailed reports of learner usage and outcomes, providing instructors with management information systems capable of being used both to diagnose specific skills deficits or problem areas and to document learning achievement. A particular strength of the learner tracking (instructional management) systems available is that they are virtually all competency-

[32] Dennis Porter, Jo Ann Intili, and Ed Kissam, ***Using Educational Technology to Overcome the Adult Basic Education Skills Gap: California's Experiences and Prospects***, Micro Methods, Berkeley, December 1989.

[33] At this point, decisions about many visual elements of interactive video learning systems can be made as part of TV production or as part of application development, depending on the specific software packages available to specific producers.

based, although specific competencies can also be interpreted as grade-level scores.[34]

The underlying funding issues raised by the availability of computer-based learning systems are similar in some respects to those of distance learning. Development costs for research and development are very high and must be amortized by some form of sales or licensing. Unlike distance learning, computer-based learning systems are currently used in the classroom, almost always in conjunction with traditional instruction, and so, are more directly tied to exposure time (seat time).

In other respects, the issues are different. Costs for the use of computer-based learning systems vary primarily in relation to the efficiency with which the learning system is used, as overhead is fixed and operating costs are low. Also, the quality and costs of the high-end, computer-based learning systems vary less than for distance learning systems (where there is a great deal of very low quality, low cost material available).

Overall Implications of Technological Change

The most direct impact of technological change is that the time-honored tradition of equating the "value" of an educational intervention with the amount of seat time spent is no longer viable for nontraditional machine-based learning.

The overall implications of technological change for funding California's adult education system are profound. Technological change has provided the basis for a wide range of modes for learning and for efforts to match learning mode to individual learners' style.

Technological change has played an important part in broadening our concepts of learning—what is to be learned, how it is to be learned, and where it is learned.

The most direct impact of technological change is that the time-honored tradition of equating the "value" of an educational intervention with the amount of seat time spent is no longer viable for nontraditional machine-based learning. If the core of learning, of education, is communication, the whole nature of education has inexorably changed since the modes of communication used are becoming so radically different.

Future changes in the next three to five years (by 1996), are likely to make it possible for learners to access learning systems on demand and, possibly, to "mix and match" the types of learning modes they want to participate in. At the same time, student tracking elements of computer-managed learning systems make it possible to measure the "value" of the

[34] Recent research suggests dividing the role of the computer in instruction into three levels: (1) computer-assisted learning, (2) computer-based learning, and (3) computer managed instruction. The third category includes management software to track learner progress via test scores and "time on task" measures. D. Porter, J.A. Intili and E. Kissam, *Op. Cit.*

educational intervention, at least in terms of specific competencies addressed by the learning system.[35]

More indirectly, technology coupled with changing societal demands has revolutionized our concept of what education does. The issue is no longer (and, actually, may never have been) what learners know, but what they can do. Clearly, there will be more interaction with more modes for communication, and more attention paid to effective and noncognitive elements in learning. It is no longer possible to be satisfied with one-dimensional grade-level measures of basic skills or with "certifications" based on completion of an arbitrarily defined continuum of activities.

Technology has provided the basis for different service delivery systems, thus posing new questions about how best to use the abilities of professional instructors and the energy of paraprofessionals. By widening educators' options, technology has laid the foundation for innovation, not just in developing technology but in mobilizing human resources. In general, technology impact includes:

- **Limits of "seat time."** Reimbursement for "seat time" is no longer reasonable for untraditional modes of instruction.
- **Multiple Educational Goals.** The value of education is seen more clearly to involve multiple skills and to include noncognitive dimensions.
- **Varied Cost Systems.** The costs involved in education are incurred at different points in time and for different sorts of expenditures than before.

Funding for innovation and performance is not only facilitated by recent technological advances, but is also required in order to take advantage of new approaches to increase the quality and capacity of the adult education system.

CHANGING SOCIAL AND ECONOMIC NEEDS

California adult education is increasingly challenged by two of the most significant social and economic trends of the decade—a changing population and private sector demand for workers with increasingly greater capabilities to function in information-rich environments. The demographic changes affect adult education by changing the human capital inputs, while the workplace changes affect adult education by transforming the nature of the required output.

[35] Large computer managed instruction systems that hold courseware from preliterate ESL to GED preparation are now available on CD-ROM for about $3,500 per learning station. These systems include graphics and audio elements.

The combination of demographic change and industrial demand experienced by California demand new types of "performance" from the adult education system and an increased level of innovation in order to meet the challenges facing learners and employers. The funding implications are that new strategies must obligatorily succeed in fostering innovation (new ways of educating adult learners) while forging a link between funding and performance that holds service providers accountable for quality. The bottom line is providing workers who are, in fact, qualified to function in the workplace of the 21st century.

Industry demand is turning from demanding better basic skills to the need for new basic skills.

Changing Workplace and Role of Private Sector

Changes in the workplace are identified as a key concern in California's Strategic Plan for Adult Education. The implications of the consensus regard the need to narrow the skills gap for tomorrow's work force.

Most discussions of business' demand for improvements in basic skills tacitly assume that the skills gap can be met by improving the general educational levels of U.S. workers or by increasing "literacy." In actuality, industry demand is turning from demanding better basic skills.[36] Industry's new menu of skills includes the old list of 3-R's, but with a greatly increased emphasis on:

- Writing skills.
- Skill in reading material that is increasingly highly formatted and permeated with the technical language of specific occupations.

New higher order skills in demand include problem solving, creative thinking, and the ability to assume leadership roles. Demands for communication skills include not only the ability to speak, write, and understand basic English, but also interpersonal skills in teamwork and negotiation. Reading, writing, and computational skills will increasingly require use of appropriate technology, such as on-line databases, and word processing and spreadsheet programs.

Participation in continuing education will be more and more important. Virtually all workers will be expected to

[36] One of the best overviews of industry skills demand can be found in ***Workplace Basics: The Skills Employers Want***, a 1989 Department of Labor report prepared by the American Society for Training and Development. Our review of industry demand includes many articles in the trade literature. Particularly interesting articles are: Jeannette Hargroves, "The Basic Skills Crisis: One Bank Looks at its Training Investment", ***New England Economic Review***, October, 1989; Jack Gordon, "In Search Of...Lifelong Learning", Training, September, 1989; Bruce Rutherford, "The Basic Skills Gap: Whose Problem, Whose Solution?" ***Public Utilities Fortnightly***, August, 1989; Joan Price, "With Action and Compassion, Managers Fight Illiteracy," ***Savings Institutions***, May 1989; Patricia Galagan, "Joining Forces: Business and Education Take on Competitiveness," ***Training and Development Journal***, July 1988.

move through one or more episodes of retraining as a result of being laid off or reassigned to new jobs. Basic skills programs must enable tomorrow's adults to learn how to learn.

Workplace demand in the information economy, not surprisingly, focuses more and more not on what workers know but how they interact with other workers and with information sources, and how they communicate information. Skills demand will continue to vary from occupation to occupation, but even traditionally low-skill jobs in manufacturing, resource industries, and services will require greater ability to process information and organize work in response to management concerns. The "passion for excellence" called for by Tom Peters and others is being espoused passionately by a wide range of supervisors and managers.

The adequacy with which a learner has acquired "basic skills" will become more and difficult to assess because competency will really consist of the ability to respond to change over longer periods of time—lifelong learning, efficient career changing, and a variety of interactions with people and information.

The impact of these changes on funding for innovation and performance vary. The adequacy with which a learner has acquired "basic skills" will become more and difficult to assess because competency will really consist of the ability to respond to change over longer periods of time—lifelong learning, efficient career changing, and a variety of interactions with people and information.

One immediate implication is that currently available measures of "survival skills" are likely not to be expansive enough to reflect competencies required for career survival. A more medium-term implication is that our assessment of the "value" of education will need to measure a learner's preparedness to meet a variety of challenges rather than to demonstrate a closed set of competencies.

The rapidly changing nature of workplace demand makes it imperative that California's adult education funding strategy succeed in motivating adult education providers to engage in more risk taking. The higher-order skills in thinking, communicating, and acting demanded by industry can only be "taught" (developed) by assuming risk and by increasing expectations.[37]

Another implication is that the process of setting educational objectives is likely to change. In the 19th century, educators took the lead in setting educational objectives and defining minimum expectations. As we move toward the 21st century, the demand for "quality" learning comes not only from the public sector but from the private sector.

[37] A report issued by the National Assessment of Educational Progress indicates that the growing emphasis in public schools on demonstrated competencies in "basic skills" has not resulted in increased abilities to use those skills in problem solving. See William Snider, "NAEP Finds Basic Skills Up, Higher-Order Skills Lacking," ***Education Week***, February 1989.

Strategically, funding incentives to yield high performance and innovation in teaching basic skills must be seen as investments that yield a high rate of return. Currently, many businesses are poised between decisions to invest in in-house education departments or to contract out with the public education system for basic skills and vocational training. Without innovation, California's public education system will no longer be "competitive"—revenue for business-sponsored education will be lost.[38] "Training on demand" by the public sector to meet private sector needs raises some public policy issues. However, flexibility by the education system in performance-based contracting to achieve common objectives holds the promise of making business-education partnerships fiscal fact, not public relations fiction.

Population Trends

The universe of need for adult education basic skills services in California consists of two distinct population groups. The first group consists of native adult learners whose school experience was unsatisfactory or incomplete. The second group includes immigrants whose school experience may have been "normal" for their country of origin, but who are not educationally prepared for life in the U.S. Within each of these populations, there are myriad distinct skills needs, educational backgrounds, attitudes and values regarding the prospect of "going back to school".

Adult learners served in ESL/Civics classes will continue to be in need of adult basic education.

Where funding policy has been standardized, services have tended to be standardized, without reflecting careful efforts to fashion service interventions that are finely-tuned to their clientele. Innovative approaches are needed to tailor education services to the characteristic needs, learning styles, and educational objectives of these distinct sub-populations.

Below, the discussion covers first issues related to linking funding to performance and encouraging innovation in serving immigrants, and second the issues relating to serving school dropouts.

Immigrants. California's adult education system has recently undergone tremendous expansion to provide ESL/Civics classes to recently-immigrated amnesty recipients who needed "certificates of satisfactory pursuit"[39] to satisfy INS requirements for permanent residence. Unfortunately,

[38] The literature shows a fairly even mix of business-education partnerships and in-house worker education efforts. For the moment, the primary constraint on business' willingness appears to be size and ability to capitalize in-house training efforts. See Chris Lee, "Industry Report 1989: The 3 R's," Training, October 1989 and "Functional Illiteracy: It's Your Problem Too," Supervisory Management, June, 1989.

[39] The ESL/Civics emphasis on what policy analyst Mark Tajima, initially referred to as "baseball stadium" education stemmed from a complex interplay of political considerations. Few observers believe that the 40--100 hours participation in the classes constitute a meaningful educational intervention. Consequently, the ESL/Civics offerings have not appreciably affected aggregate demand for English language and literacy courses.

this service expansion was achieved at the expense of educational quality in many cases. Now, this newly developed capacity is currently contracting as the "bulge" of immigrants secures permanent residence and impact funding dwindles. At the same time, virtually all of the adult learners served in ESL/Civics classes will continue to be in need of adult basic education.

Demand for basic education services in California for the population legalized by IRCA probably amounts to about 600,000 adults in need of ESL and literacy skills.[40] Because this population is relatively young, it will be a source of demand for English language and basic skills education well into the 21st century.

The challenge facing California's adult education system is to develop funding approaches that foster quality basic skills training tailored to the immigrant population's specific educational needs.

The demand for services will be increased by recent modifications to the Immigration and Naturalization Service "family fairness" doctrine. These modifications will provide *de facto* amnesty to another 200,000–300,000 family members of persons legalized under IRCA.

Finally, the flow immigrants into California is to likely to slow Since the "control" function of IRCA has been minimal, it is likely that California's immigration population will increase by 100,000–200,000 additional adults each year.[41]

Because the skills gap between immigrants with very low levels of educational attainment and increasing workplace demands is so critical, an objective of adult education services for immigrants will be learning to learn—an objective that has not always received much priority.

The challenge facing California's adult education system is to develop funding approaches that foster quality basic skills training tailored to the immigrant population's specific educational needs, including special topic areas such as understanding eligibility for available social service, health, and training programs, career orientation, and communication skills.[42] The challenge is a pressing one because the funding approach rewarded quantity over quality. As the immigrant population is assimilated into industries other than the low-skill

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[40] This estimate is based on a methodology used by Ed Kissam in "Rethinking Services for Immigrants and Refugees," San Francisco Human Rights Commission, May 1988. The methodology adopts a conservative approach to estimating service capacity need by discounting the universe to account for return migration, motivational factors, and personal constraints to come with a realistic universe of need. The sad irony of California's experience with SLIAG is that due to refusal to use real-world approaches to budget allocation, the SLIAG budget was underspent, while genuine needs, primarily adult education, went unmet.

[41] A recent Urban Institute study reports that IRCA has had a moderate effect in decreasing immigration. Other analysts believe that levels of immigration are not greatly changed from the pre-IRCA period. Douglas Massey of the University of Chicago has put forward a discussion of theoretical considerations that indicate that migration may increase. See Douglas Massey and F. Garcia-Espana, "International Migration Networks", *Science*, May 1988.

[42] Senate Bill 2441 (Torres), introduced February 28, 1990, seeks to provide special incentives for the design of a program to help immigrants understand service availability.

sectors that have traditionally provided them with employment, demand for quality work site education will escalate sharply.[43]

Because California has a higher rate of immigration than any other state (and about 60 percent of the nation's Latino immigrants), it will continue to set national standards for immigrant education. The funding for these programs must be adjusted to encourage innovation and reward quality performance. Innovation will be needed for support service needs of recent immigrants in order to reduce immigrant student attrition. Funding innovations are also needed to build the ability for continuing learning and to overcome the psychological barriers faced by adult learners who have little experience in any educational setting.

School Dropouts. School dropouts continue to be a serious problem in California and in the nation. Since many high school graduates lack the basic skills required to participate successfully in the society and the workplace, it is fair to assume that a much higher proportion of school dropouts will require some sort of assistance in basic skills development during their working life.

Many school dropouts will probably require extraordinary attention in the form of support service needs. Large portions of the dropout population are psychologically, economically, and, in some case, culturally under stress. Support services will be required to integrate personal counseling with basic skills development.[44]

Because school dropouts often have a long history of "failure" in the educational context, the costs of individual learners not achieving their learning objectives in the adult education setting are particularly high (irrespective of the reasons for non-completion). For school dropouts, one more failure in the adult education setting may finally eliminate a fairly tenuous resolve to continue learning. There is, consequently, a strong economic rationale for "bonus" funding for quality control in the form of increasing program completion rates.

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[43] Demand for worksite education for the immigrant labor force is already on the upswing. A particularly interesting presentation made by Rob Cartwright of Tejon Farms, and Jess Gomez, of the Agricultural Personnel Management Association at "Agricultural Workforce 2000" March 1, 1990 identified communication skills for workers upgrading into supervisory jobs in agriculture as a crucial need.

[44] The State Department of Education's Youth, Adult and Alternative Educational Services (YAAES) Division is currently developing a *Strategic Plan for Alternative Education*. The outcome of this planning process, modeled in part on the Adult Education Strategic Plan, will be recommended policies and procedures to more effectively address, among other target populations, the dropout and marginal student problems.

Implications of Social and Economic Trends

The gap between industry demands for workers with a richer mix of personal and cognitive skills and a population with increasing proportions of immigrants and school dropouts with skill shortcomings makes it clear that fostering innovation must be a high priority for California's funding strategy.

The social and economic trends discussed above indicate that the funding strategy adopted must strive, above all else, for quality education. It must encourage learning opportunities that respond to individuals' special needs. It must also create incentives for cost effectiveness and programs that meet the changing needs of industry and society.

The funding strategy will need both to encourage risk taking, dispelling the perceived threat of innovation, and to provide strong incentives for quality assurance. The strategy, in short, is one parallel to the exhortation of management thinkers such as Tom Peters who have argued, very successfully, to American business that risk taking and "a passion for excellence" are one and the same.

2.5 Key Findings

The preceding research and analysis identifies these findings central to addressing funding for innovation and performance:

(1) The history of performance-based funding has been more preoccupied with the assumption that program costs must be contained than with efforts to assure the quality of program outcomes.

(2) There is a growing interest linking instructional performance with learning outcomes. This value-added approach is being required more and more.[45]

(3) Measures of instructional performance must be equitable and simple to obtain.

[45] The accountability report cards for school districts that is a requirement of Proposition 98 is another reflection of this trend. See Dawson, *Op. Cit.*, pages 12–13.

(4) The specific demands placed on adult education require measures of performance that must encourage an enriched service menu.

(5) The needs of adult learners require that funding linked to performance must encourage improvements in the quality of service for hard-to-serve groups (*e.g.* discourage creaming), particularly immigrants and school dropouts.

(6) There are no ready made models that can be readily adapted for adult and noncredit education.

(7) Fee-for-service funding and nominal performance-based approaches do not include rewards for meeting targets or service excellence.

The next section addresses the options to identify, and examines test approaches to funding for innovation and performance. These options are presented with the realization that elaborate work must be done to adapt them to adult and continuing education.

Chapter 3

Options to Implement Recommendation

Research has identified eight policy options for review and consideration. These options are a pragmatic approach to (1) initially prepare for, (2) develop analytic models for, and (3) test several models of funding for innovation and performance.

This chapter presents a set of options for implementing Recommendation 2. The research and design aspects of this approach in this working paper will evolve as (1) more research is accomplished with this and related policy option papers, (2) advisors and administrators comment on the options and recommendations, and (3) a broader dialogue on the issues emerges.

3.1 Issues and Options

This chapter identifies nine areas requiring planning decisions and examine options within each area. (See Exhibit 3.1). This paper will evolve over time and should be treated as a "work in progress." Readers are encouraged to comment regarding omissions and oversights are invited.

It is important to recognize that the options presented in this chapter are designed primarily for nontraditional education where instructional technology or nontraditional settings are being employed. While several of these models may apply equally to traditional learning, this issue should not obscure the need for new approaches to funding nontraditional learning.

Exhibit 3.1
POLICY ISSUES AND OPTIONS FOR FUNDING FOR INNOVATION AND PERFORMANCE

(1) **Obtain Legislative Authorization to Test New Models**

(2) **Adopt the Independent Study Approach as the Basis for Nontraditional Adult Education**

(3) **Develop a Cafeteria Plan of Reimbursement Options**

(4) **Develop a Statistically Reliable Method for Measuring Increased Learner Competencies**

(5) **Develop a Fee-for-service Plus Performance Bonus Model**

(6) **Develop a Standardized Funding Model Based on Value-Added by the Educational Intervention**

(7) **Experiment With a Cafeteria Plan of Reimbursement Options**

(8) **Utilize the *EduCard*™ to Facilitate Public-Private Ventures and Cross-Agency Funding**

For the purpose of this paper "nontraditional learning" includes the following:

It is important to recognize that these options are designed primarily for nontraditional education where instructional technology or nontraditional settings are being employed.

(1) Computer-managed and computer-based instruction with limited instructional support other than coaching, tutoring or counseling.

(2) Home-based or community-centered instruction with is primarily technology centered.

(3) Worksite located or workplace oriented instruction where the employer(s) may pay at least a portion of the instructional costs (joint ventures).

(4) All forms of distance learning, *(e.g.* linear and interactive TV, correspondence courses, remote computers).

(5) Mobile educational facilities.

(6) Volunteer centered learning regardless of the levels of technology used.[1]

(7) Settings where a certified instructor is not necessarily always present.

Other cases should be added as appropriate.

The eight options presented below can stand alone. Each should be considered on its own merits as options to be added to our current funding system. Many of these options are experimental. The reason for this is that this is a realm with few guidebooks. Thus, the first steps should be developmental and basic.

(1) OBTAIN LEGISLATIVE AUTHORIZATION TO TEST NEW MODELS

Presently the adult schools and noncredit community college programs are funded only on an ADA basis. They are not permitted to use other types of reimbursement procedures in expending state funds.

Presently the adult schools and noncredit community college programs are funded only on an average daily attendance (ADA) basis. With rare exception, they are not permitted to use other types of reimbursement procedures in expending state funds.[2]

The model has been classroom based instruction with a certified teacher present. When instructional technologies are employed, they are used in learning labs or in the classroom. Much of the instructional technology is of a "skill and drill" nature used to reinforce other instruction.

Recent research suggests that adult schools are reluctant to use ADA funds to purchase educational technology.[3] Changes in federal adult education guidelines now encourage the purchase of instructional technology with federal section 321 funds.[4] The primary source of this technology funding has been funds from categorical programs (GAIN and JTPA) or "soft" program development resources.[5]

Legislation is needed to permit experimentation with alternative forms of reimbursement in nontraditional education.[6] While this policy testing can be accomplished with

[1] This approach is neither nontraditional nor necessarily technology based. However, it should be included in this classification.

[2] The Community Colleges do fund telecourses in their matriculation programs, but not in their noncredit education.

[3] D. Porter, J.A. Intili and E. Kissam, *Op. Cit.* In this study administrators said that they were very reluctant to use ADA funds to purchase instructional technology.

[4] Dr. Ray Eberhard, Administrator of the Adult Education Unit, announced in April, 1990 that the CDE will permit Section 321 providers to purchase technologies such as computers, modems, video disc and software but *only* for instructional use. These purchases can be made without prior state authorization. Unfortunately, this did not include requirements for a local technology utilization plan.

[5] See D. Porter, J.A. Intili and E. Kissam, *Op. Cit.*, Executive Summary, page 7.

[6] In order to receive ADA a certified instructor must be onsite.

federal adult education funds, this source is limited. Further, plans for the use of the 321 funds have been established for the next three years, and these plans are commonly linked to ADA resources.

Legislation is needed to permit experimentation with alternative forms of reimbursement in nontraditional education.

The need to test alternative methods of funding for innovation and performance was set forth by the 1988–89 Adult Education Advisory Committee.[7]

State-of-the-art microcomputer and video-based instructional technologies have only become available and affordable in the past five years. Programs using these and other instructional technologies are not easily funded by traditional ADA because they are commonly applied individually in "self-paced" fashions. Legislative attention to the funding issues raised by the changing nature of instruction is very recent.

Programs that use instructional technologies have, for the most part, paid for them with non-ADA funds. Many are using older, more limited hardware and software, because of the barriers to financing the initial capital investment.

Evaluation

More flexible instructional approaches must be widely available to meet the objective of making the learning of basic and other skills readily available and accessible to Californians. The goal is to make adult education available on an "anytime, anyplace" basis in order to respond to the continuing pressures for basic and other skills learning. As noted above, the range of necessary approaches can be expected to include:

- Learning lab instruction
- Worksite basic skills instruction
- Library and other community centered class and volunteer instruction[8]
- Home and media based instruction
- Portable media based instruction

Machine based learning permits a more individualized and flexible approach to instruction and eventually to tutoring. Serious research and policy testing with the uses of

[7] The purchase and use of instructional technology should take place within the context of an agency or institution's technology plan rather than willy-nilly when soft funds or end of the fiscal year funds are available. At the very least, it is necessary to permit and encourage the responsible financing and depreciation of machine based learning equipment and software.

[8] This is approach is neither nontraditional nor necessarily technology based. However, it should be included in this classification.

instructional technology are constrained by the ADA reimbursement approach.

More flexible instructional approaches must be widely available to meet the objective of making the learning of basic and other skills readily available and accessible to Californians.

Limited research suggests, for example, that computer-managed instruction provided in an independent study format can be supplied at less cost and less time than the traditional class-centered instruction. However, it is also necessary to explore (1) under what conditions this approach is useful, (2) which types of learners benefit from this approach, and (3) what are appropriate mixes of counseling, coaching and instructional support in conjunction with machine based instruction. At the same time, application of these educational technologies requires more initial investment.

Exhibit 3.2 sets forth an informed estimate of the utility of current technologies, *given the availability of current adult oriented software*. It provides a basis for making judgments about the proper roles that technology can play in adult basic and secondary education.

This analysis suggests that major improvements in applied learning technologies are needed to make them applicable across the board for basic education. ***Program and Staff Development: Policy Option Paper on Strategic Recommendation 9*** recommends inclusion of adult education (adult schools) in the K–12 focused *Educational Technology Act*. This will be helpful in allocating resources and R&D for technology centered instruction. It will not provide the flexibility to test non ADA organized programs and performance based instruction. It also calls for public-private collaboration on adult oriented software and courseware development.

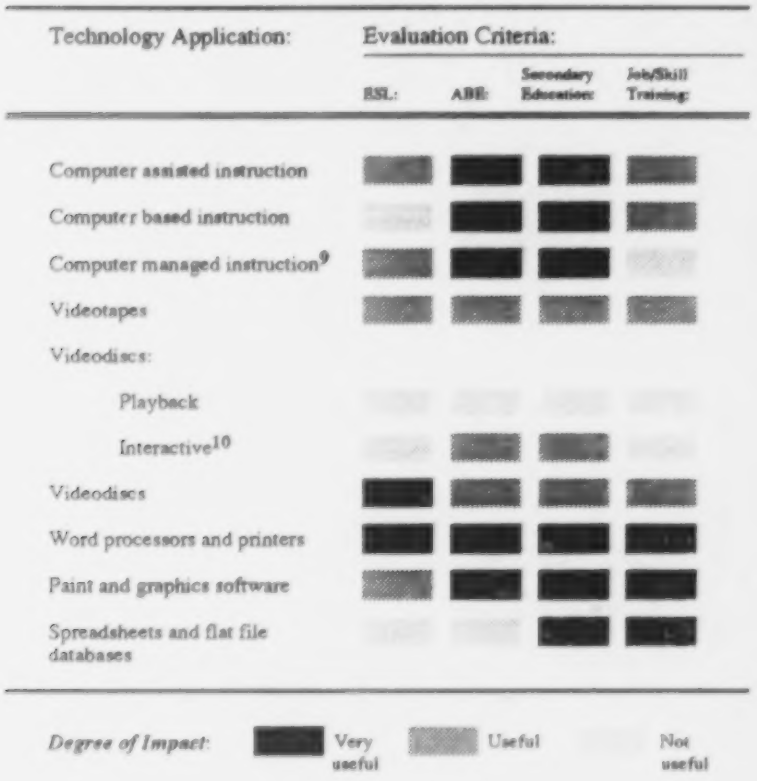
Prospects for Future

A growing body of research and experience indicates that computer-based and other forms of technology based instruction can be effective, equitable and efficient for adult learners with little or no negative experience in traditional educational settings. Their use in nontraditional settings has not been tested in the civilian sector.

New advances in these media, especially in the realms of multimedia instruction and intelligent tutoring show great promise for "anytime, anyplace" instruction for adult learners and for an enriched basic skills curriculum.

Exhibit 3.2

CURRENT UTILITY OF INSTRUCTIONAL TECHNOLOGIES FOR ADULT LEARNERS



Without the ability to test these methods, it will be difficult to know under what conditions adult education can be made more effective, equitable, or more cost efficient.

(2) ADOPT INDEPENDENT STUDY APPROACH AS BASIS FOR NONTRADITIONAL INSTRUCTION

The independent study approach establishes a mentoring relationship between a learner and instructor. This relationship, based on an action plan or negotiated work plan, is carried out by the learner under supervision and coaching

[9] The policy option paper on ***Program and Staff Development*** includes a glossary of technology related terms. Computer managed instruction (CMI) is using the computer as the central feature in instruction, permitting the computer to pretest competencies, select learning levels, instruct and measure comprehension of particular areas of learning. There are several computer managed instruction programs that include lower level ESL that have impressed the paper's authors. They include courseware franchised or sold by U.S. Basics, Washington D.C. and the Computer Curriculum Corporation, Palo Alto, California. This is not an endorsement, but they are worthy of examination.

[10] The video disc interacts with a microcomputer to respond to the user's cues, information searches, and developmental activities. It serves as an exciting simulation medium.

from the instructor. This plan becomes a social contract that can be reviewed, modified and used as the benchmarks for monitoring performance. A good plan presumes obligations on the part of the learner and instructor. Until recently, independent study was not permitted in adult schools except in the case of concurrent enrollment. This has been relaxed in 1990.

The independent study approach establishes a mentoring relationship between a learner and instructor. This relationship, based on an action plan or negotiated work plan, is carried out by the learner under supervision and coaching from the instructor.

This approach comes from employment and training programs. Prevocational and vocational preparation have an individual focus. A useful example is the student who carries out much of his or her learning in a learning lab setting, drawing on text and research tools to support computer managed instruction. The computer managed instruction is the core of the learning and enables the learner to progress at her own pace.

The instructor monitors this progress, works with the learner on supplementary assignments and practice, and coaches her on areas of apparent difficulty. Group centered activities that enable the learner to discuss, explain, defend and compare learned perspectives and experiences are crucial to this approach. In fact, if there is a potential shortcoming for the independent learning model, it is the tendency to minimize group discussion, group projects, and the formation of higher order cognitive skills.

Since the setting is not classroom based, it is difficult to determine the basis for ADA. Time on task, measured by the computer managed instruction system, is the core part of learning. Offsite research, counseling, group discussions, and reading all form part of the "learning time" as it does in traditional education.

ADA reimbursement is less beneficial to the provider when learner participation is intermittent (as in a lab setting). Since each student devises his or her learning plan, it seems that "obtained competencies," is a better basis for reimbursement. Using the *EduCard*™ as the basis for reimbursement for "obtained competencies" seems preferable.

The basis for this approach comes from the conventional wisdom on adult learning. Andragogy is a term, a concept and a rallying cry against the use of didactic, authoritarian methods of school based instruction. Malcolm Knowles describes andragogy as a set of assumptions that define "the art and science of helping adults learn, in contrast to pedagogy which is the art and science of teaching children."[11] These assumptions serve as the basis for the core perspective and

[11] Helping to learn versus teaching is the basic operational difference. Knowles distinguishes, possibly incorrectly, that these are age based. Malcolm Knowles, ***The Modern Practice of Adult Education: From Pedagogy to Andragogy***, Association Press, Follett Publishing Company, Chicago, 1980, pages 40–45.

consequently the orthodoxy on adult learning. These assumptions are:

Adults are aware of their specific learning needs determined by real life tasks or problems.

- Adults desire and demonstrate a tendency towards self-directedness as they mature, though they may be dependent in certain situations and conditions.
- Adults' experiences are a rich resource for learning and teaching others.[12] Adults learn more effectively through experiential techniques of education such as discussion or problem solving.
- Adults are aware of their specific learning needs determined by real life tasks or problems. Adult education programs should be organized around "life application" categories and sequenced according to learners' readiness to learn.
- Adults are competency based learners in that they wish to apply newly acquired skills or knowledge to their immediate circumstances. They are therefore "performance centered" in their orientation to learning.[13]

Recognizing that adult learning is voluntary, requires administrator and curriculum designers to shape the curriculum to fit these basic precepts.

Evaluation

This recommendation distinguishes between adult learning as a class centered activity and learning as an individual activity. The independent study approach is being used in adult schools and in some employment and training programs. Its application in the community colleges is less certain since the "class" basis for all instruction is very strong.

The independent study approach defines the role of the instructor as a facilitator and coach working with each individual learner independently, recognizing learning style differences, differences in background and differences in learning objectives. Ideally, the use of instructional technology, paraprofessional and/or volunteer assistance will enable the instructor to perform this role. However, it presumes different skills and a different learner-mentor relationship.

[12] The "empty vessel" concept should be disregarded for any form of education, yet is a difficult trap to avoid.

[13] In California and other states, much of the school based adult education uses the competency based approach. One good resource on competency based testing and education is the Comprehensive Adult Student Assessment System (CASAS), 2725 Congress Street, Suite 1M, San Diego, California 92110.

In the case of ESL and basic education, the role of group interaction, practice, discussion, and projects cannot be overly stressed. The quest for anytime, anyplace learning to facilitate opportunities for all learners can conflict with this need for group interaction. This is the conceptual area that should be debated and monitored with care.

Prospects for the Future

Substantial improvements in instructional technologies are forecast. Expert tutoring systems will be able to tailor learning to fit the individual. These improvements will not be "Disneyland learning" but practical, information rich teaching environments that cannot be matched by traditional modes of classroom instruction.

The 1990's will be a time of tremendous change in the knowledge of and the approaches to cognition and "learning to learn." These changes can be easily incorporated into the independent study approach. Including cognitive skill challenges in curricula stimulates the ability to compare, synthesize and to synergize information. The development of learning process skills are based on these interrelated activities:

Opportunities to use and develop these cognitive skills should be readily present in an adult basic education curriculum.

- Observing
- Classifying
- Inferring
- Predicting
- Making operational definitions
- Time-space relationships
- Formulating and testing hypotheses
- Interpreting data
- Formulating revised models

When organized in a structured fashion, these activities promote problem solving, solution seeking, decision making and critical thinking. Opportunities to use and develop these cognitive skills should be readily present in an adult basic education curriculum. It is these process skills, often referred to as critical thinking skills, which form the core steps of learning – while the learner's background and experiences form the learning crucible.

This blending of topical and higher order thinking skills can be blended in the independent study model. It will require refocusing staff and program development.

The ability to rapidly reimburse providers for individual competencies gained by using the *EduCard*™ as the portable database will enhance the popularity of this approach.

(3) DEVELOP A CAFETERIA PLAN OF REIMBURSEMENT OPTIONS

As more flexible and appropriate methods to fund nontraditional and innovative adult and noncredit education evolve, new bases for determining costs and reimbursement will be required.

The current ADA funding basis is set uniformly for school districts, regardless of the actual costs of instruction.[14] However, as more flexible and appropriate methods to fund nontraditional and innovative adult and noncredit education evolve, new bases for determining costs and reimbursement will be required. As more flexible and appropriate methods to fund nontraditional and innovative adult and noncredit education evolve, this will require new bases for determining costs and reimbursement. This is especially the case when machine based instruction is a major mode of learning, when instruction is provided in nontraditional settings.

Increasing attention to adult education by a wide variety of federal agencies and businesses will make it necessary to make use of more diverse funding sources. If state funds are to be used to leverage and capture this potential revenue stream, providers must be allowed greater flexibility in cost allocation.

New methods will be needed to determine equitable allocations of costs under varying conditions and to determine what constitutes a fair system of reimbursement. The basic costs that must be reviewed include:

- Labor and personnel
- Equipment and equipment replacement[15]
- Supplies and instructional materials
- Facilities
- Transmission (if distance learning)
- Utilities
- Overhead and other fixed costs[16]

[14] One unit of ADA equals 525 student attendance hours. There are three types of ADA: actual, allowable and fundable. Actual ADA is the number of student ADA hours actually served by a school district. The allowable ADA is the maximum level the state will fund. The fundable ADA is the lesser of "actual" or "allowable" ADA *and the level the state really funds*. Actual ADA is based on the total hours of instruction earned in each of the ten state authorized areas of instruction. See Dawson, *Op. Cit.*, pages 11–13.

[15] Traditional accounting methods allow the depreciation of equipment including software. Currently no more than five years can be the expected useful life of instructional computer hardware and software. This rule of thumb should be supported by inventory management procedures that identify purchase dates and software details.

[16] Overhead rates are treated as standard fixed rates or negotiated rates that are supported by historical data.

Increasing attention to adult education by a wide variety of federal agencies and businesses will make it necessary to make use of more diverse funding sources.

Different modes of instruction will have substantial variations in the costs of instruction, all of which must pass accounting and legislative scrutiny. Procedures for calculating and reporting such variations of cost must be developed through careful research and testing.

A flexible reimbursement model must be developed that can accommodate all instructional modes and environments as well as traditional classroom centered learning. It is critical that the procedures specified by this option be equitable but relatively simple to define, document and apply.

There are different methods to reimburse institutions and organizations for the provision of public services. These methods include:

- Fixed price (fixed unit price—ADA or fixed total price—straight bid)
- Cost reimbursement (reimbursement for actual costs incurred with a set ceiling)
- Fee-for-service (roughly the same as cost reimbursement but with a negotiated cost ceiling)
- Nominal performance based (JTPA and value-added)

Outside of policy testing and experimentation, there are no apparent models that reimburse service providers based solely on their performance. There are many reasons for this. Chief among them being (1) the potential risk to providers if targets are not met; (2) the *initial* difficulty in planning under these conditions; and (3) the difficulty in obtaining the necessary data and consensus on what constitutes appropriate measures of performance. This is especially the case in an open entry/open exit environment.

Evaluation

It is feasible to design flexible accounting options to fit varying instructional delivery approaches. These options must be neutral and not inherently favor one instructional approach at the expense of others. They also must permit providers to plan for and recover their investment and instructional costs including their investments in plant and equipment.

Outside of policy testing and experimentation, there are no apparent models that reimburse service providers based solely on their performance.

It is very important that these accounting options do not inadvertently discriminate against the lower level or hard-to-serve adult learner. In fact, they should potentially reward providers seeking to serve the most educationally disadvantaged learners.

Fine tuning the models will require the involvement of providers to insure that the model will, in fact, provide them the flexibility they need to deliver quality services and to best leverage collateral funding.

Prospects for Future

Several conditions are necessary to fully realize this option (See Exhibit 3.3). These include costs on program performance, underwriting options, and empirical assessments of the educational achievement of the various types of learners under different modes of instruction. These preconditions are not absolutely necessary to the development of a flexible reimbursement system. However, they are needed for its fine tuning.

Exhibit 3.3

CONDITIONS NECESSARY TO REALIZE A FLEXIBLE REIMBURSEMENT APPROACH

(1) More accurate data on provider performance (Option 4) and a standard system of collecting such data that provides a value-added assessment of learner gains.

(2) Freedom to underwrite the uses of educational technology is needed.

(3) Empirical assessment of the conditions under which various types of learners perform the best under different modes of instruction.

Ultimately, improvements in expert system and decision support software may make it possible for adult education providers to optimize their combination of instructional techniques, support services, and learning technologies for different populations and specific educational objectives. Flexibility in cost reimbursement is necessary to take full advantage of increasing ability to tailor adult education programs to meet local needs.

(4) DEVELOP A STATISTICALLY RELIABLE METHOD FOR MEASURING INCREASED LEARNER COMPETENCIES

If feasible, it would be easiest to reimburse provider performance based on the learner gains—pre/post test using agreed upon assessment measures. This presumes that lower level learners as a group learn about the same as higher level learners and that there are no significant learning differences among demographic subpopulations. However, it is not clear whether this assumption is correct.

The measurement of learner performance and consequently the performance of the provider must be based primarily on the knowledge gains of the learner. It is not sufficient to measure performance based on a state average, the highest level score gains, or on measures of learning gain which discriminate against subgroups. This is especially the case when learning gains form the basis for provider reimbursement. Learners can be profiled into subgroups for statistical purposes, (*e.g.* age, sex, pretest score, ethnicity, learning objectives). Such breakdowns will also permit assessments of how different types of learners function within different modes of instruction.

It is necessary to develop a statistically reliable profile of subgroups of the adult education learners in California and the expected learning norms for selected subgroups.

It is necessary to develop a statistically reliable profile of subgroups of the adult education learners in California and the expected learning norms for selected subgroups.[17] This is accomplished by (1) selecting a generally acceptable performance measure, (2) selecting a sample large enough to distinguish different subpopulations of adult learners in a statistically reliable fashion, and (3) conducting pre/post testing of a sample of learners to determine learning gains (instructional value-added) by statistically identifiable subgroups.[18]

The resultant profile will permit administrators, planners and policy analysts to measure relative instructional performance-based on the actual mix of persons served and compare the provider's performance with the state average for the particular subgroups. These data can also provide some guidance on the relative alternative modes of instruction or instructional strategies, though they will not be definitive.

If there are significant statistical differences among learning groups, these state norms could serve as the basis for measuring performance for a given time period. They can

[17] This initially applies most especially to ESL, secondary education basic skills, elementary school level basic skills, and possibly vocational education.

[18] While it is far simpler to measure performance by learner gains and reimburse accordingly, this can lead to the problem of overlooking or avoiding the hard to serve learning populations (*e.g.* nonliterate native language, special education) because the reimbursements will be less. Rather it is more useful and fair to determine reimbursement approaches based on the expected learning gains for these various learner groups.

change the next time the sampling occurs. In the event that there are not significant differences among some or all of these subgroups, increases in learning gains would serve as the measures of value-added and performance rewarded accordingly.

For example, the ABE and ESL programs in adult school "A" in the San Joaquin valley serve 30 percent monolingual Spanish speaking adults born in the United States, 40 percent limited English speaking immigrants born outside of the United States, and a mix of other subgroups of English language speakers. On the other hand, community college district "B" in the Los Angeles basin may serve 35 percent monolingual Vietnamese speaking women, 15 percent single Black women head of households (not in GAIN) functioning at the elementary level, 20 percent English-speaking Mexican-American high school dropouts and various other subgroups.

If there are significant learning gains differences among these subgroups, it is important that the performance of provider "A" is measured against a statewide average of learner gains (value-added) for the particular subgroups it serves and the same with provider "B."[19] In this example, let us suppose that the overall outcomes for its learner groups are below sampled average for provider "A" while provider "B" is above average. Provider "A" receives either targeted technical assistance or other support to improve. Provider "B" receives a bonus commensurate with their above average performance.

The precise decisions about what constitutes performance rewards and technical support would be defined within the other options which follow.

In order to generate the information needed for this performance benchmarking, it is proposed that the Adult Education Institute for Research and Planning conduct periodic random sampling of adult learners skill assessment tests from an adequate sample that would permit statistical analysis to provide sufficiently high levels of confidence regarding rates of gain (value-added) for definable subgroups of learners.[20]

Measurement of program performance via learner skill gains is being used by an interstate consortium of community colleges to examine their performance with respect to student transfers to four year colleges. Initial analysis revealed that there are significantly different demographic profiles of community college transfer populations and providers—from very affluent suburban settings to very poor urban

[19] This approach was suggested by Daniel Weiler, Partner, Berman, Weiler Associates, Berkeley. Berman, Weiler Associates is refining this method in a project to determine relative community college to four year college transfer rates in a multi-state experiment with community college districts.

[20] How the subgroups are defined would be determined in the statistical analysis.

communities.[21] In order to measure effectiveness, equity in measurement is required to permit statistical analysis of transfer rates.

Evaluation

The principle of measuring provider and learner performance only within the context of statistically identifiable learner subgroups is a crucial policy decision.

The principle of measuring provider and learner performance by pre/post tests of student skill achievement is a crucial policy decision. It presumes significant learning differences among statistical learner subpopulations. It should be maintained regardless of the exact directions in which methods for funding for innovation and performance evolve. This is especially the case if these performance measures are linked to rewards, provider report cards, and/or sanctions.

The statistical sampling issues associated with the approach are well understood. The performance measures will be derived from public policy and the outcomes of policy research and advisory meetings concerning Recommendation 7 *Program Quality Standards and Performance Measure* activities.[22]

This option is expected to have many positive impacts on our ability to plan and provide better educational services:

- Development of a representative statewide database on adult learner and subgroup learning gains.
- Development of a statewide report card on provider services vis a vis learner subgroups.
- Ability to target intervention strategies and shift resources to underserved subgroups.
- Ability to project the probable effects of intervention strategies.
- Ability to develop cost-benefit models of alternative learning strategies.

Implementation of this option should compliment current plans to develop an effective integrated adult education data system (sampling can come from the database).

Prospects for the Future

Implementing this option can set the stage for developing a reliable and valid set of measures to monitor and evaluate the quality and effectiveness of adult education in California. If

[21] Daniel Weiler, *Op. Cit.*

[22] Fred Best *et al*, *Quality Standards and Performance Measures: Policy Option Paper on Strategic Recommendation 7, Op. Cit.*

selected, it can provide a wealth of information for providers and policy makers about the nature of adult education vis a vis a set of agreed upon measures.

(5) TEST A FEE-FOR-SERVICE PLUS PERFORMANCE BONUS MODEL

This option entails adoption of a funding strategy that allows providers to recover their actual costs of providing service (which may vary from one provider or location to another) but that adjusts the reimbursement rate by paying a bonus for superior performance.

This option entails adoption of a funding strategy that allows providers to recover their actual costs of providing service (which may vary from one provider or location to another) and adjusts the reimbursement rate by paying a bonus for superior performance. This option could also withhold a portion of funding for lower-than-average performance while guaranteeing a "floor" level of reimbursement to manage the risks encountered by service providers.

This approach would pay the provider for its actual audited costs for delivering services up to (for example) 85 percent of its total costs. A formula that takes into account performance, nature and level of persons served, and their learning gain scores—value-added—would account for an additional 0 percent to 30 percent of the total reimbursement. In this example the provider can recover from 85 percent to 115 percent of its actual operating costs per learner served, depending on an annual level of performance.[23]

This option incorporates the idea that the actual value-added by the educational intervention must be taken into account—not simply the level of costs incurred. In practice, the actual value of the educational intervention may not always be correlated with the cost of service delivery (*e.g.* in program designs relying heavily on volunteer service).

There is a limited history of testing these limited market models of service delivery. The only partial examples include the JTPA and value-added models reported in this paper. The difficulty has been in striking a balance between (1) rewarding the provider for the successful provision of service, (2) controlling the costs of service provision, (3) providing support for the less productive providers, and (4) insuring that all potential learners can be equitably served.[24]

[23] This poses some questions about when a person is officially registered in a program, fiscal year carry overs, and definitional concerns that require careful consideration.

[24] There are substantial policy and ethical difficulties in determining who should be served in publicly supported service programs. There is the *triage* approach where those most likely to succeed are targeted for service and variations of that approach. While providers will maintain that those who come are served, those most difficult to serve are often the least likely to know of a service or be able to arrange their lives to take advantage of the service. See Policy Option Paper 3 ***Community Adult Education Information Services***, Exhibit 9, page 43.

Evaluation

The actual value added by the educational intervention must be taken into account. In practice, the actual value of the educational intervention may not always be correlated with the cost of service delivery (e.g. in program designs relying heavily on volunteer service).

This option challenges the providers to provide effective services while bearing in mind the needs for efficiency and equity. It is the equity concern that may be lost unless adjustments for serving the hard-to-serve are included. (See **Option 4**). We favor special bonuses for targeting the hard-to-serve.[25]

This approach assumes that providers will take corrective action to improve services if they are loosing money. This funding strategy may prove to be particularly effective in communities where learners can choose among several service providers or among several types of service alternatives (an adult education market place).[26]

It also will encourage providers to consider the uses of instructional technologies because they are less costly over time. Providers who become confident of their learning systems, or who have maintained good data on persons served can benefit from this approach because (1) their actual costs are covered, and (2) they can make a profit based on their success.

The lack of current data on the success of these programs will make it difficult to say whether the learner is better served by this approach. Much of what is considered success is based on nonscientific assessments, folklore and personal experience. By encouraging more flexibility and permitting more learner centered instruction, the learner will be better served. However, the absence of longitudinal data or data on learning retention rates makes this, too, an article of faith.

There is the question of *qui bono* (who benefits). The providers will generally benefit because their real costs regardless of their effectiveness or mode of delivery are, for the most part, recovered. In some communities there will be severe pressure to upgrade the wages or working conditions (permanent rather than hourly employment) of adult education instructors involved in the technology based learning that, at least in the short run, can increase the costs of providing learning services.[27] However, as more instructional technology

[25] The hard to serve are often overwhelmed by countless problems that make enrolling, attending and sticking with learning more difficult. Performance bonus systems must take this into account. Option 3 can set the norms for serving the hard to serve. But inducements to actively recruit, enroll and provide the support services are needed, because there are fewer successes and the costs of service in all likelihood are higher.

[26] Policy Option papers 3, 4 and 8 set the initial parameters for a client centered service delivery and information system, (e.g. Community Adult Education Information Services, the EduCard, and the Integrated Adult Education Data System). Within this system it is expected that learners will shop for learning services based on available providers, their services, their performance and other characteristics. In the long run the actual cost of providing services and the provider's performance record could influence learner's decisions on programs.

[27] The conventional wisdom suggests when a next generation or newer form of technology is more effective and is about the same efficiency (the same or less cost), that it will become accepted and adopted. In the case of instructional technology, we feel certain that it will become a more central part of adult basic learning, and the role of the instructor will change to accommodate it. This

is introduced and as these technologies improve, they will be used more and more, reducing or stabilizing the overall costs of instruction.

By encouraging more flexibility and permitting more learner centered instruction, the learner will be better served.

This is a "win-win" scenario wherein (1) providers can recover most of their real costs of service provision, (2) appropriate technology can be purchased and depreciated, (3) instructors can be realistically paid for real contributions, (4) providers will have some flexibility in how services are provided, and (5) providers can, if they perform well, even make a modest profit.

Prospects for Future

This is an option worth testing. It encourages innovation and educational excellence while insuring that service providers need not encounter unacceptable levels of financial risk. The more clever and experienced administrators will be able to optimize this approach easily. Those who are less experienced, will quickly learn how to use it.

How this option evolves is contingent on the resolution of a number of legislative and policy issues such as:

- How adoption of this option in support of non-traditional instructional methodologies relates to the overall state approach to adult education funding.
- Whether funds will be distributed statewide based on assessment of need.
- Whether funds will be distributed regionally as determined by assessment of need.
- Whether funds will be distributed as present with historic funding caps.

For the most part, these are secondary concerns from the point of view of policy testing. In the short run, it is important to experiment with funding methods that encourage the development of diverse and locally appropriate strategies to deliver learning services.

suggests that we may expect to better utilize instructors, be able to pay them sufficiently to retain the good ones, and still better serve the learner.

(6) DEVELOP A STANDARDIZED FUNDING MODEL LINKED TO VALUE-ADDED BY EDUCATIONAL INTERVENTION

This approach provides a standardized reimbursement to the provider for learning services rendered, based on measures of how much an adult has learned—value-added. Since competencies can be defined and tested, this approach can be applied to any type of instruction including vocational education and the ten areas of adult education. We suggest two variations for consideration.

This is an option worth testing. It encourages innovation and educational excellence while insuring that service providers need not encounter unacceptable levels of financial risk.

The first variation (Option 6A) is similar to Option 5 (adjustment of funding in relation to performance with a guaranteed floor) but standardizes reimbursement in order to encourage cost-effective service delivery. The second variation (Option 6B) is a "marketplace model" (funding driven primarily by performance). Other variations may be worth considering, and they are invited.

(6A) Set a Statewide Base Rate and Adjust for Performance.

This approach would set an average per person reimbursement for any learner who receives more than a low threshold of service (similar to ADA based funding) and would provide substantial incentives for value-added by instruction. These incentives would be weighted to not discriminate against the hard-to-serve learner or possibly to even favor him or her.

The base rate would enable the provider to recover some of its service costs, but would require it to receive the bulk of the funds based on the value of instruction. This would encourage efficiency, effectiveness and, given the proper design, equity in service delivery.

This variation is based loosely on cost reimbursement type contracting that sets norms for pricing. We are aware of one experiment using this approach. However, the evaluation is not available.[28]

[28] The Office of Economic Opportunity in 1969–72 tested a variation of this concept in a prevocational education (ABE) program using both computers and manual based programmed learning. The contractor was a private, for profit firm willing to take the risk on this approach.

Evaluation

The merits of this option are that good performance is rewarded and poor performance is not rewarded. However, it poses several problems for the providers. It may be more difficult to plan instructional programs in this environment. Providers' initial response may be to favor cost-cutting over increase in educational effectiveness until they determine how best to optimize cost and instructional effectiveness. It is difficult to determine how rapidly this strategy would move providers toward the optimal balance without an empirical test of the funding approach.

This approach provides a standardized reimbursement to the provider for learning services rendered based on measures of how much an adult has learned—value-added.

This approach suffers from the lack of service delivery data on which to make basic cost and benefit calculations. It will be initially difficult to set the norms and the value-added incentives so as not to punish the hard-to-serve (Option 4). However, if the base is reasonable and the value-added incentives appropriate, both the learner and the more effective providers can benefit.

It is difficult to argue against measuring and rewarding performance. It can be argued that punishing poor performance will hinder service in some communities. These communities may include those with a substantial at-risk learning groups. However, if performance is measured according to learning subpopulations skill gains from the point of entry (Option 4), poor performance, not equity will be the issue.

Prospects for Future

It is difficult to speculate on the prospects. As indicated in Option 3 there are other policy and funding issues that impact the future of this option.

(6B) Reimburse Providers Based on Value-Added

This option would reimburse the provider for learning services based solely on a value-added rate schedule. As in the previous alternative, the incentives would be weighted to not punish or preferably to favor the hard-to-serve. The incentive would increase as the value-added increases.

This option differs from Option 6A in two respects. The costs reimbursed would be the provider's real costs rather than a statewide norm and the reimbursement would be based entirely on value-added with consistently good performance permitting the provider to make a "profit."

An optimistic example of this approach is:

(1) A provider knows that it can improve (on the average) a 6th grade level native language speaker's reading and writing skills on the average of two grade levels with 140 hours of instruction. The fixed and variable costs for this instruction the average $1,500 including pro rated computer time, space use, equipment depreciation, materials, instruction and coaching, limited one on one tutoring, and overhead.

Experience is likely to show that there is an "optimal" mix of instructional strategies, technologies, instructor skills and abilities, and management to be effective with different learner populations. The providers who learn this will benefit.

(2) The scheduled reimbursement for this learning increase is $1,900.

(3) Using historical information, the provider knows it can expect to serve about 100 persons fitting the 6th grade native language speaker profile with the expectation that 60 will achieve the two grade increase (the $1,900). Based on the historical and needs assessment information, the provider can expect to make a "profit" of some $24,000 ($400 x 60). The remaining 40 learners will be in a range that will essentially "break even" from a fiscal point of view.

(4) In this example, the "profit" would be targeted to upgrade curriculum or program design, increase levels of support services afforded to "at risk" learners in the hopes of improving overall performance, give bonuses to instructors, or any of several other approved uses for the funds including carrying them over as flexible money to the next fiscal year.

This example suggests some of the policy and design issues. Experience is likely to show that there is an "optimal" mix of instructional strategies, technologies, instructor skills and abilities, and management to be effective with different learner populations. The providers who learn this will benefit. Others will struggle. A few providers will be forced to make substantial changes to meet their goals in a cost-effective manner.

There is little experience for this approach. It flies in the face of the perspective that a public service program not should have private sector type incentives and disincentives to improve performance or should not be "profitable."

Prospects for the Future

As with the preceding options, the future prospects are tied to many imponderables. For the near future, the policy issue is whether to test the utility of this approach.

A market-driven funding approach has the advantage that it increases accountability. The crucial issue centers on the rate at which educational providers can move from the relatively weak current links between funding and performance and a more competitive funding environment. It is important to determine the feasibility of this option.

The alternative to incorporating market forces into the realm of public sector adult education is increasing levels of educational privatization and loss of public and corporate support for public sector educational providers.

(7) EXPERIMENT WITH A CAFETERIA PLAN OF REIMBURSEMENT OPTIONS

The purpose of this option is to initiate efforts that allow the California Department of Education to move ahead prudently with testing one or more of the performance-linked models.

The purpose of this option is (1) to initiate efforts that allow the California Department of Education to move ahead prudently with testing several of the performance-linked models, and (2) to obtain support for further testing in a wider range of environments when and if state authorization is forthcoming.

It would be desirable to implement Option 7 in connection with the efforts entailed by Option 3. This is because adjusting incentives to reward performance for the relative difficulty of serving different subgroups of learners can be approached most effectively by examining service to identified subgroups of learners in different administrative contexts (*e.g.* a performance-linked funding environment and in the ADA environment).

It appears possible that one or more of these models can be tested in conjunction with a federal supported native language involving educational technologies in unserved parts of the state.[29] Policy approval from the Interim Steering Committee is consistent with the approval for the technology outreach program funded as part of California's four year adult education plan.

[29] This presupposes that the technology based program will be funded for several years and that the stakeholders will participate in this experiment.

Technically this approval is not required. But it is important to provide broader support for the experimentation and to monitor its progress in conjunction with the refinement of the funding for innovation and performance recommendation.

As noted there is experience with the specific models being proposed for testing. There is substantial precedent for using federal adult education funds to test program models and new learning approaches.

Evaluation

Option 1 must be adopted legislatively before experimentation using state funds is permitted.

The normal process in policy development based on long-range planning is to test and experiment with new ideas. This is in keeping with that approach.

It seems sensible that a working paper model of the option(s) be developed in conjunction with stakeholders. A subcommittee of the Interim Steering Committee or an ad hoc task force can carry out this assignment. This can be done by using the same approach that is being taken with Recommendations 3, 4 and 8, but with fewer planning resources.

Development of this option is an inexpensive and appropriate use of federal adult education funds. It is an appropriate use of state public funds, but prior authorization is required.

Prospects for the Future

It is important to test these and other evolving models in diverse settings that reflect adult education in California choosing among a variety of strategies intended to foster excellence in adult education.

(8) UTILIZE THE *EDUCARD*$_{TM}$ TO FACILITATE PUBLIC-PRIVATE VENTURES AND CROSS-AGENCY FUNDING

Key elements in extending nontraditional learning to serve learners anytime and anyplace is developing public-private ventures and cross-agency funding. Models are now being

tested for worksite, workplace and employee literacy training that combine the resources of employers and adult educators.[30]

Key elements in extending nontraditional learning to serve learners anytime and anyplace is developing public-private ventures and cross-agency funding.

Cost sharing and reimbursement methods are an important aspect of these collaborative arrangements. Determining instructional performance or value-added is another. The issues identified in this paper cover most of the subjects to be resolved in negotiating these public-private and cross-agency arrangements.

The *EduCard*$_{TM}$ is an ideal mechanism to facilitate the monitoring and reimbursement for value-added instruction.[31]

The Adult Education Access Card (*EduCard*$_{TM}$) is the symbol and the tool to facilitate the lifelong learning concept. Learners entering participating programs or (eventually) graduating from or leaving high school will be issued an *EduCard*$_{TM}$.

Information encoded on the card will tell the learner and the provider the person's educational record, eligibility for alternative programs, and certification of demonstrated skills. This encoded information which can be updated as appropriate will (1) simplify paperwork, (2) reduce administrative costs, and (3) make more sensitive learner, service, and labor market information available. It will expedite linking private funds with public resources. An example follows:

An adult education provider and an employer wish to establish a worksite literacy and ABE program for employees. The program will be offered on a voluntary basis with leave time permitted for part of the instruction. The employee is expected to voluntarily use additional time. A computer-managed instruction program is established at the worksite, and a basic curriculum proposed. The cost sharing arrangements between the provider and the private sector participants are negotiated stipulating that when each learner is tested and certified as completing a given competency or benchmark, the information is recorded and the employer invoiced. Learning increases for each participant are rewarded regardless of whether the top benchmark or goal is realized.

This progressive invoicing is rapid response, yet based on measured achievements.[32] Both the computer management software and the *EduCard*$_{TM}$ can be used as the medium to record progress as can other agreed-upon assessment measures.

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[30] JTPA and federal adult education funds are being used to test these approaches. A body of literature is beginning to appear on the subject.

[31] See *EduCard–Adult Education Access Card: Policy Option Paper on Strategic Recommendation 4*, Adult Education Institute for Research and Planning, Sacramento, California, March 4, 1990.

[32] A variation includes the EduCard being used as an access card to the learning lab as well as the medium for recording individual performance. This secure lab setting could be available 24 hours a day.

This reduces paperwork and enables the instructor to individualize instruction based on individual learning plans. Since participation is voluntary and employees attend at different intervals and with different regularity, the *EduCard*$_{TM}$ serves as the portable database to determine initial competencies and record learner progress.

There is a growing body of experience with this approach. Stumbling blocks are:

This progressive invoicing is rapid response, yet based on measured achievements.

- Location of the training
- Methods for determining cost and reimbursement
- Curricula and staff requirements
- Flexible scheduling
- Making the program voluntary and non-coercive
- Methods to individualize instruction
- How to avoid creaming
- How to address special education

Using computer managed instruction, supported by group and coaching activities will probably begin to make these activities more feasible.

Evaluation

In the short run the *EduCard*$_{TM}$ has the advantage of permitting the learner to build his or her skills at multiple sites, presuming general agreement on performance measures and benchmarks. The rewards to the learner and to the provider are tied to performance, not to time on task. The card also serves as a portable resume of certified achievements that the employer can access with the cardholder's permission.

In the longer run the *EduCard*$_{TM}$ can be a kind of debit card with employers contributing to a training fund and the funds debited to the provider's account as specified training is completed. This example operates within the context that Californians have the right to a high school education and that the public sector will underwrite some or all of these costs, even in a workplace setting, as circumstances permit. At the same time employers have other work skills requirements that education providers can fill more readily than the employer's human resources personnel. In this case equitable reimbursement is required. Again the *EduCard*$_{TM}$ can reduce the paperwork, record progress, certify accomplishments and facilitate reimbursements.

Prospects for the Future

The EduCard$_{TM}$ learning account is a metaphor for life long learning where the learner develops skills and interests in a marketplace of learning options.

Certifying prior learning and achievements is difficult. Continuing education, shortcourses, specific training, and basic education achievements all occur and are recorded by the provider. Yet it is the learner that needs this evolving record has she or he goes through life to avoid repeating instruction, to document achievements and to take advantage of entitlements. The *EduCard$_{TM}$* is an ideal way to do this.

Life long learning, the need for continuing training and retraining and skills upgrading are highly probable for everyone seriously engaged in the information society. It is likely that programs like the Employment Training Panel (ETP) will become more prevalent where funds are allocated to pay for training or retraining. These training accounts can be seen as entitlements and can be used to maintain or improve skills. The *EduCard$_{TM}$* can record these entitlements, and debit them as the learner draws against the account for training.

The *EduCard$_{TM}$* learning account is a metaphor for life long learning where the learner develops skills and interests in a marketplace of learning options. This is a partial vision of the 21st Century.

3.2 Pros and Cons of Alternative Approaches

This section will present criteria for evaluating the proposed options and explore the pros and cons of each.

CRITERIA FOR EVALUATION

To develop criteria for evaluation, the objectives of Recommendation 2 (See Exhibit 1.2) have been combined with the conditions necessary to realize a flexible reimbursement approach (See Exhibit 3.3). These criteria are presented in Exhibit 3.4. They frame the following analysis and are used in a cross-matrix analysis (See Exhibit 3.5) to estimate each option's impact.

Exhibit 3.4

CRITERIA FOR EVALUATION OPTIONS

(1) STRENGTHEN ACCOUNTABILITY:

- **Develop reliable basis for evaluating provider performance.**
- **Generate the information needed to optimize instructional strategies.**
- **Test the effect of performance incentives.**

(2) FACILITATE ANYTIME, ANYPLACE LEARNING:

- **Reimburse on a flexible basis to allow a wide range of alternative service methodologies.**
- **Reward providers for adapting to learner's individual scheduling and transportation needs.**
- **Encourage alternative service delivery systems that maximize efficiency and equity.**

(3) ENCOURAGE PUBLIC-PRIVATE VENTURES AND CROSS-AGENCY FUNDING:

- **Tailored to learner and employer needs.**
- **Leverage new resources for financial support, program and learner support.**
- **Test innovative approaches to closing the basic skills gap.**

(4) STIMULATE FLEXIBLE FUNDS ALLOCATION:

- **Promote local planning and needs assessment.**
- **Encourage providers to invest in improving service delivery quality.**
- **Target resources to specific and identified needs.**

(5) STABILIZE PROVIDER FUNDING:

- **Support program continuity.**
- **Stimulate local planning and resource mobilization.**
- **Support staff development.**

COST-BENEFIT IMPACTS OF THE OPTIONS

It is difficult to calculate the actual costs of the proposed options. Options chosen by the Interim Steering Committee and administrators will be analyzed in greater depth. The purpose of this proposed experimental approach is to gain insight into the prospective costs and benefits of the options.

Nature and Value of Positive Impacts

The general nature and value of the positive impacts expected from each option are summarized below.

- **Legislative Authorization to Test New Models.** Legislative authorization is required to use state adult and noncredit education funds to test methods for funding non-ADA based innovation and development. This option has a positive impact in relation to the evaluation criteria proposed. It is noteworthy that legislative consideration of the rationale for this option will serve to introduce key legislative staff and committees to the considerations underlying the full set of options. These options are, in general, highly responsive to ongoing legislative concerns regarding increased accountability, flexibility and performance.

- **Adopt the Independent Study Approach as the Basis for Nontraditional Adult Education.** This approach is in keeping with the conventional wisdom regarding the unique features of adult education. It stresses the role of the individual in learning and seeks to make it the centerpiece in all learning experience.

- **Develop A Cafeteria Plan of Reimbursement Options.** The adult education providers and the California Department of Education will have an opportunity to reexamine cost accounting issues that may either constrain or facilitate the provision of services. This option should increase the feasibility of anytime, anyplace learning, encourage public private ventures and improve the targeting of funds.

- **Develop a Statistically Reliable Model for Measuring Increased Learner Competencies (Value-Added).** We feel that this option is the most important of the initial set presented. It may take longer to implement than several others but provides the basis for equitably determining

performance. This option should improve provider accountability substantially, stimulate flexible funds allocation and stabilize provider funding.

- **Develop a Fee-for-Service Plus Performance Incentive Model.** This model development would begin as a descriptive paper model, and be subsequently tested. It is a cost-effective way to examine changes in public policy. This option should facilitate anytime, anyplace learning, may encourage public-private ventures and should stimulate flexible funds allocation.

- **Develop a Standardized Funding Model Based on Value-Added by Educational Intervention.** This model development begins as a descriptive paper model. It would be subsequently tested to determine its utility, effectiveness and unintended consequences. It is a cost-effective way to examine changes in public policy. In conjunction with Option 3, this option should improve accountability, facilitate anytime, anyplace learning and encourage public-private ventures. In our judgment it will stimulate flexible funds allocation.

Many ideas sound better than they turn out in reality. Social and management science are sometimes confounded when they meet sociopolitical realities.

- **Experiment With A Cafeteria Plan of Reimbursement Options.** Many ideas sound better than they turn out in reality. Social and management science are sometimes confounded when they meet sociopolitical realities. Experimenting with promising policy concepts that appear viable, at least initially, is a time honored, cost-effective approach. This option should have a positive impact based on all the evaluation criteria with the exception of stabilizing provider funding.

- **Utilize the *EduCard*$_{TM}$ to Facilitate Public-Private Ventures and Cross-Agency Funding.** This option recognizes the growing importance of public-private collaboration and seeks to facilitate it by reducing the paperwork and documenting performance outcomes. It is in keeping with the spirit and development of the Adult Education Strategic Plan and the interrelation of its recommendations.

Costs of Operation and Negative Impacts

This subsection will capsulate the costs and negative impacts expected from each option.

- **Legislative Authorization to Test New Models.** It is unlikely that there will be negative impacts unless the matter, which seems to us straightforward, upsets apparent vested interests. The costs are negligible. There should be no negative impacts using the evaluation criteria.
- **Adopt the Independent Study Approach as the Basis for Nontraditional Adult Education.** The Community College System may have difficulty with this approach since they operate entirely in a class centered mode. There are no implicit costs tied to this recommendation, although program and staff development activities (Recommendation 9) should reflect this shift.
- **Develop A Cafeteria Plan of Reimbursement Options.** The costs associated with this option are the development of the paper model and the costs associated with its review and analysis by the Steering Committee and state education officials. These costs should be considered part of the implementation of the Adult Education Strategic Plan. There should be no negative impacts based on the evaluation criteria.
- **Develop a Statistically Reliable Model for Measuring Increased Learner Competencies (Value-Added).** The cost alternatives entailed by this approach must be determined. Possible decision alternatives would be: (1) determine if current skills test data are sufficient to develop the sample and profile; and (2) if not, determine the costs of generating the data. In the short run, these data may only be available for Section 321 programs. In the long run, these data must be generated if any attempts are made to fairly assess the relative performance of providers. There should be no negative impacts based on the evaluation criteria.
- **Develop a Fee-for-service Plus Performance Incentive Model.** This is a paper model process relying on the outcomes from Option 3. The costs associated with it are (1) model development, (2) review and approval or modification by the Interim Steering Committee,

and (3) review and approval or modification by state education officials. These costs should be considered part of the implementation of the Adult Education Strategic Plan. There are no apparent negative impacts associated with this option. Its effect on stabilizing provider funding is unproven or unknown.

- **Develop a Standardized Funding Model Based on Value-Added by Educational Intervention.** This is a paper model process based on the outcomes from Option 2. The costs associated with it are (1) model development, (2) review and approval or modification by the Interim Steering Committee, and (3) review and approval or modification by state education officials. These costs should be considered part of the implementation of the Adult Education Strategic Plan. There should be no negative impacts based on the evaluation criteria. Its impact on stabilizing provider funding remains is unproven or unknown.

- **Experiment With A Cafeteria Plan of Reimbursement Options.** The costs associated with this option are the special efforts to test the funding models, create and implement the evaluation component and conduct the action research. If the federally funded outreach project is part of this experiment, most of the associated costs can be covered through existing contracts (Adult Education Institute and OTAN).[33] A broader test of one or more models will entail new costs that cannot be presently calculated. There are no negative impacts associated with this option. The policy testing is done to avoid unintended consequences.

- **Utilize the *EduCard*™ to Facilitate Public-Private Ventures.** There are costs associated with the use of the *EduCard*™. They are being analyzed in other feasibility studies. However, the presumption is that the *EduCard*™ will reduce paperwork and consequently costs and facilitate cost sharing and the documentation of learner outcomes. There are no negative impacts associated with this recommendation, outside of MIS related costs.

[33] OTAN refers to the Outreach and Technical Assistance Network funded with federal Section 353 funds to provide technology oriented technical services to adult school and other providers. One component of this project is an "outreach" experiment, using instructional technologies, to serve native language basic education learners. It can serve as the project to test one or more reimbursement approaches.

ACCEPTABILITY TO STAKEHOLDERS

The relationship between the ***Funding for Today's Needs*** and ***Funding for Innovation and Performance*** recommendations require more refinement. Is the policy intention to recommend that ADA be replaced with a performance-linked alternative? Even if the answer is affirmative, change is a long way off because it requires serious analysis and testing.

However, stakeholders can be divided into three groups for this discussion: (1) "haves," (2) "have nots", and (3) a lot of "have not enoughs." Having refers to current levels of ADA. Each of these groups will consider the options from slightly different perspectives. As a whole, they will be quite concerned about any policies that impact funding.

- **Legislative Permission to Test New Models.** Stakeholders, in our judgment, would support this approach. They would also support legislation to include the use of instructional technology in state funded adult education.
- **Adopt Independent Study Approach as Basis for Nontraditional Adult Education.** The Community Colleges may object to this recommendation on philosophical or practical grounds. However, the focus is on nontraditional learning. We expect stakeholders to accept this recommendation in principal and to find practical ways to integrate it into their overall instructional strategies.
- **Develop A Cafeteria Plan of Reimbursement Options.** Stakeholders would support this option, although they would expect to be consulted in its development and refinement.
- **Develop a Statistically Reliable Model for Measuring Increased Learner Competencies (Value-Added).** In our judgment stakeholders would support this option. They need this data also in order to analyze their performance. They will be concerned about the design, the measures, and the costs. There will be concern raised about too much testing though the test can be based on a reliable sample. The issue of teaching to the test has been raised with this option. Likewise the question of obtaining post-instruction outcomes information can be a problem.
- Develop a Fee-for-Service Plus Performance Incentive Model. There is little doubt that

stakeholders would support the development and refinement of this model.

- **Develop a Standardized Funding Model Based on Value-Added by Educational Intervention.** It is not clear whether stakeholders would support this model, at least as articulated in this paper.
- **Experiment With A Cafeteria Plan of Reimbursement Options.** Stakeholders would support this option as it applies to instruction that is dependent on computer based or distance learning technology. They will be concerned about the nature of the model and the policy implications as a replacement for ADA.
- **Utilize the *EduCard*™ to Facilitate Public-Private Ventures.** Stakeholders would support this option, especially in the nontraditional settings where flexible learning and scheduling prevail. It will help reduce administrative costs and document performance.

CROSS-MATRIX ANALYSIS AND DISCUSSION

Exhibit 3.5 displays the options cross referenced by our assessment of their impacts, based on the evaluation criteria. Reviewers should consider performing their own assessment using this same approach.

Exhibit 3.5
ILLUSTRATIVE CROSS-MATRIX COMPARISON OF OPTIONS VIA COMMON CRITERIA

Recommendation:	Evaluation Criteria:				
	Improve Account-ability:	Facilitate Anytime, Anyplace Learning:	Support Public-Private Ventures:	Simulate Flexible Funds Alloca-tion	Stabilize Provider Funding:
(1) Legislative Authority to Test New Models	■	■	■	■	■
(2) Adopt the Independent Study Approach for Nontraditional Adult Education	▒	■	■	■	■
(3) Develop Cafeteria Plan for Reimbursement Options	■	■	■	■	■
(4) Develop Statistically Reliable Model for Measuring Increased Learner Competencies	■	■	■	■	▒
(5) Develop Fee-for-Service Performance Incentive Model	■	■	■	■	■
(6) Develop Standardized Funding Model Based on Value-Added	■	■	■	■	▒
(7) Experiment with a Cafeteria Plan of Reimbursement Options.	■	■	■	■	▒
(8) Utilize the *EduCard*™ to Facilitate Public-Private Ventures	■	■	■	■	■

Degree of Impact: ■ High impact ▒ Medium impact Low impact

Chapter 4
Recommendations

We recommend that all options be selected for further development as action items or as descriptive paper models. In addition, a new recommendation is added that directs the Adult Education Institute to begin to build a knowledge base on adult learning theory and how it applies to skills development competencies and problem solving skills.

This paper addresses fundamental policy issues that will guide the development and testing of innovative funding approaches and models. It lays the groundwork for further analysis and policy testing.

The options presented can be reviewed as a group or individually. They are presented in a somewhat sequential manner. We recommend that all eight options be adopted. In addition a new recommendation is proposed.

4.1 Summary and Elaboration of Options

The nine options presented and recommended are:

(1) Obtain Legislative Authority to Test New Models

(2) Adopt the Independent Study Approach as the Basis for Non-Traditional Adult Education

(3) Develop A Cafeteria Plan of Reimbursement Options

(4) Develop a Statistically Reliable Model for Measuring Increased Learner Competencies

(5) Develop a Fee-for-service Incentive Model

(6) Develop a Standardized Funding Model Based on Value-Added

(7) Experiment With A Cafeteria Plan of Reimbursement Options

(8) Utilize the *EduCard*™ to Facilitate Public-Private and Cross-Agency Ventures

(9) Develop a Knowledge Base on Adult Learning and Higher Order Thinking Skills

4.2 Summary of Selection Decision

Options 1–4 to some extent preclude the full development and testing of Options 5–8. In this sense, a basic structured approach is proposed.

Eight of these options have been discussed in detail in the preceding chapters and will be elaborated as research and discussion progresses. For the moment, the most important concern is whether the central themes or issues are addressed that will permit the Adult Education Institute for Research and Planning to begin to refine an initial approach to funding for innovation and performance. Toward this end a ninth recommendation is added to guide long term background research.

OBTAIN LEGISLATIVE AUTHORITY TO TEST NEW MODELS

In order to fully test models for funding innovation and performance, legislative authority is needed. This may take some time to acquire. In the meantime, limited testing can occur with the federal adult education funds received by the state or by soliciting other sources of funds.

Recommendation 1
OBTAIN LEGISLATIVE AUTHORITY TO TEST NEW MODELS

The intent to test adult education models that can measure effectiveness and performance is important. Full scale testing requires legislative authority to:

- **Use funds for instructional technologies.**
- **Reimburse providers for services other than via ADA.**
- **Determine whether multiple approaches are reasonable and feasible.**

More developmental work can continue while this authorization is sought. Until substantial experimentation occurs, the feasibility of the approach and the unintended consequences cannot be determined.

ADOPT INDEPENDENT STUDY APPROACH AS BASIS FOR NON-TRADITIONAL ADULT EDUCATION

The independent study approach that measures learner progress based on competencies achieved will be useful for non-traditional education. It recognizes individual timetables, backgrounds, learning styles and objectives for the learning, and develops a plan and procedure to address them.

The independent study approach that measures learner progress based on competencies achieved will be useful for non-traaditional education.

Recommendation 2
ADOPT INDEPENDENT STUDY APPROACH AS BASIS FOR NON-TRADITIONAL ADULT EDUCATION

Indpendent study, using performance based measures of achievement, is ideal for non-traditional and traditional adult education. It recognizes each person's abilities and goals and develops a course of action based on it. This approach:

- **Supports anyplace, anytime learning.**
- **Facilitates the use of instructional technologies.**
- **Links performance and reimbursement.**
- **Recognizes differences in learning style and pace.**

More developmental work can continue while this authorization is sought. Until substantial experimentation occurs, the feasibility of the approach and the unintended consequences cannot be determined.

DEVELOP A CAFETERIA PLAN OF REIMBURSEMENT OPTIONS

In ADA based funding, the major expense is instructor salary and benefits, whether they are contract or hourly employees. In technology centered and nontraditional adult education, instructor costs may not account for the major expenditures. This depends in part on the instructional setting and whether facility and technology costs are shared with K–12 providers or community college credit education, or are wholly the adult education provider's responsibility.

Recommendation 3
DEVELOP A CAFETERIA PLAN OF REIMBURSEMENT OPTIONS

The cost reimbursement model should include provisions for recovering technology costs via measures of use and depreciation. This necessity suggests that the manner in which learning costs are determined should be reexamined to:

- **Underwrite appropriate instructional hardware and software.**
- **Underwrite developmental and facilities modification costs.**
- **Permit multiple source funding and cost sharing agreements.**
- **Stimulate and encourage technology and facilities planning.**

More developmental work can continue while this authorization is sought. Until substantial experimentation occurs, the feasibility of the approach and the unintended consequences cannot be determined.

Learner performance should be measured in comparison with similar learners.

The cost elements for this model are known. However, when personnel and possibly even facilities are lower portions of learning cost, the overhead costs change and other elements will increase cost. A model that anticipates these variations and treats them fairly is the objective.

DEVELOP A STATISTICALLY RELIABLE MODEL FOR MEASURING LEARNER COMPETENCIES

Learner performance should be measured by skills gains in comparison to similar learners.[1] This can be accomplished by developing statistical samples of learners that are large enough to include learning subgroups.[2] When such a model is designed and in place in California, the California Department of Education will be able to (1) determine the relative learning achievements among different learners, (2) reward provider performance and assist underperforming providers, and (3) develop an understanding of what instructional strategies work with which learners.

[1] Issues related to the validity of the measures are the subject of Policy Option Paper 7 *Program Quality Standards and Performance Measures*.

[2] This groundwork has been laid in current pre and post learner testing with federally funded 321 programs.

Recommendation 4
DEVELOP A STATISTICALLY RELIABLE MODEL FOR MEASURING LEARNER COMPETENCIES

Learner achievement should be the primary measure of program performance. Learner achievement should be measured as skill gains using pre/post testing of skills and compared with norms established for types of learners in order that overall measures do not discriminate against the underachievers. With a statewide skills gains sampling system that is large enough to reliably measure subgroup norms, useful measures of learner competencies can be developed. These measures should be used to permit performance measures to be aligned to the actual learners served at the state, regional and local levels. The Interim Steering Committee's Subcommittee on Quality Standards and Performance Measures will oversee the development of skills assessment testing systems to be used with this recommendation.

The utility of this model goes far beyond funding for innovation and performance. It can lay the groundwork for substantial state and local planning and analysis. We presume that adult education will be more and more learner centered and the learning demands more diverse. Data reflecting what strategies and what costs are associated with serving the various learning populations will permit fine tuning approaches to the adult learner.

DEVELOP A FEE-FOR-SERVICE INCENTIVE MODEL

Authorization is sought to develop a descriptive model of a fee-for-service (actual costs based on a set of performance assumptions) incentive model. The incentive would reward performance if the costs were less than assumed and/or if the learner performance meets or exceeds state norms (Recommendation 4). This approach recognizes the difference in costs among providers and seeks a fair return on the costs, if there is sufficient value-added for the instruction.

Recommendation 5
DEVELOP A FEE-FOR-SERVICE INCENTIVE MODEL

The Adult Education Institute will develop a paper descriptive model of a fee-for-service incentive model as set forth in this paper. A small task force can guide this effort with minimal cost. This model will:

- **Rely on Recommendation 3 for structure.**
- **Follow acceptable public accounting practices.**
- **Be based on an articulated set of assumptions.**
- **Be amendable to cost accounting and audit procedures**

The objective of this development will be to field test the model in diverse settings. However, this presumes that Recommendation 4 data are available and that Recommendation 1 has been implemented.

This model implies tradeoffs between costs and performance that will be unique to each provider and each learning group depending on the nature of the incentives. It implies that some providers may specialize more in whom they serve.

To be useful the model must encourage serving the hard-to-serve adult learner. We have identified the school dropout and the immigrant as two important groups.

DEVELOP A STANDARDIZED FUNDING MODEL BASED ON VALUE-ADDED

We recommend that a descriptive model that rewards performance based on increased learner competencies be developed. This development should occur with participation from a range of current adult education providers participating in an advisory or design capacity. These providers can be drawn from the Interim Steering Committee's Subcommittee on Funding and Subcommittee on Quality Standards and Performance Measures.

Recommendation 6
DEVELOP STANDARDIZED FUNDING MODEL BASED ON VALUE-ADDED

A descriptive paper model should be developed to define the parameters for funding providers and to reimburse providers based on value-added.

Implementation of this model presumes the availability of information proposed in Recommendation 4.

Substantial agreement is necessary on what constitutes the parameters of these models. There are policy issues that must be addressed with the guidance of adult education administrators. Developing these models as paper products will be cost effective and provider sensitive.

EXPERIMENT WITH A CAFETERIA PLAN OF REIMBURSEMENT OPTIONS

Some latitude exists to begin to experiment with models that stress innovation and performance. The drawback is the lack of data until Recommendation 4 is implemented. However, surrogate data can be developed and small experiments mounted using federal funds. We recommend that small experiments be initiated that test these above noted models:

Recommendation 7
EXPERIMENT WTH A CAFETERIA PLAN OF REIMBURSEMENT OPTIONS

Two models that stress significant features of innovation and performance should be tested in small experiments. They are:

- 5 - Develop a Fee-for-service Incentive Model
- 6 - Reimburse Providers Based on Value-Added

The "outreach" project that will rely on instructional technology may serve as an initial test site. Providers would be asked to select or would be assigned to test the models noted above.

These models would be tested after sufficient developmental work. This presumes the approval of Recommendations 5 and 6. This testing, albeit limited, can provide early guidance as to the types of policy issues and concerns that will arise in a broader experiment.

UTILIZE *EDUCARD*$_{TM}$ TO FACILITATE PUBLIC-PRIVATE AND CROSS-AGENCY VENTURES

The *EduCard*$_{TM}$ and the collaborative information structure are being designed to enable the cost effective cross agency transfer of learners and learner information. One aspect of this cross agency collaboration is between the public and private sectors. The *EduCard*$_{TM}$ and its companion cross agency management information system will support this development.

The EduCard$_{TM}$ *and the collaborative information structure are being designed to enable the cost effective cross-agency transfer of learners and learner information.*

Recommendation 8
UTILIZE *EDUCARD*$_{TM}$ TO FACILITATE PUBLIC-PRIVATE AND CROSS-AGENCY VENTURES

The definition of basic skills gets broader as the information society evolves. Life long learning and continuing education are necessary. This will result in new public-private ventures. The *EduCard*$_{TM}$ will enable these collaborations to readily:

- **Document prior skills.**
- **Measure progress and performance.**
- **Document value added.**
- **Speed the reimbursement process.**
- **Support individual pacing.**

Easing administrative arrangements and documenting performance will enhance these public-private and cross-agency arrangements because they are performance driven rather than seat time or input driven.

DEVELOP A KNOWLEDGE BASE ON ADULT LEARNING AND HIGHER ORDER THINKING SKILLS

While not strictly necessary, it is important to address some areas of cognition and learning that have not been a focus in adult education. We refer most specifically to developing a better understanding on how skills competencies are developed

and problem solving skills enhanced. The Adult Education Institute for Research and Planning should be directed to begin to develop a knowledge base on these higher order learning skills, especially as they apply to technology based instruction.[3]

The Adult Education Institute should be directed to begin to develop a knowledge base on these higher order learning skills, especially as they apply to technology based instruction.

Recommendation 9
DEVELOP A KNOWLEDGE BASE ON ADULT LEARNING AND HIGHER ORDER THINKING SKILLS

The Adult Education Institute (AEI) should include in its work plan the steps to develop a knowledge base on adult learning theory and higher order thinking skills—especially problem solving and skills development competencies. As more attention is focused on life long learning and skill training and retraining, this knowledge base should be used to guide policy testing and experimentation.

This recommendation requires minimal resources. It acknowledges the importance in integrating higher order thinking skills into competency based education. It also acknowledges the fact that learning theory is changing, especially in the area of machine based learning. Attention should be paid to these changes.

This recommendation is made to insure that this topic, while more abstract, is included in the Adult Education Institute workplan and that some oversight occurs regarding its design and implementation. We would expect this knowledge base to consist of syntheses from bibliographic, research and other published information and software that relates to developing an understanding of adult learning theory and adult learning practice—both basic and advanced.

[3] The current interest in "fuzzy logic," expert systems and intelligent tutors points to new means to support and enhance learning and problem solving in the workplace, learning station and the community.

Chapter 5

Conclusion and Future Issues

These eight recommendations presented in this paper and subsequent development work will lay the groundwork for the design and application of funding systems that encourage innovation and performance.

The initial recommendations will be refined in the next working documents. They will be reviewed by staff and agency heads for their acceptability, and then adjusted until they are acceptable to the heads of the collaborating agencies.

The further development and analysis of issues related to funding for innovation and performance will take two forms: (1) on-going research and analysis; and (2) implementing the approved recommendations. Pending approval and funding for developmental work, they will be performed by Adult Education Institute for Research and Planning (AEI) under the guidance of the Interim Steering Committee and its subcommittees.

Any policy recommendations of the Interim Steering Committee or subcommittees will be reviewed by State Superintendent of Public Instruction, Bill Honig, and California Community College Chancellor, David Mertes, as well as heads of other participating agencies.

The most important immediate future issue is linking the recommendations among the 14 policy options papers to form a coherent whole. Other future issues of importance are based on the outcomes of subcommittee, Interim Steering Committee and agency review.

This review and discussion process is designed as a progressive cycle of public comment and dialogue among agency heads, Steering Committee members and Institute personnel.